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ABSTRACT

Information is presented on remedial education activities of California postsecondary institutions. A survey was conducted of 98 percent of the campuses of the University of California, the California State University, and the California community colleges. In addition, site visits were made to 14 campuses and interviews were conducted with over 100 administrators, faculty members, and staff members about their programs for underprepared students. Survey topics included: the types of remedial programs, courses, and support services; the use of diagnostic testing and assessment activities; the number of courses, sections, and enrollments in remedial reading, writing, mathematics, and English as a second language courses over 3 academic years; and the administration and costs of these remedial activities. In addition, dimensions of the problem of college underpreparedness, including the historical development of remediation in America, are discussed. Finally, policy implications of the survey and interview results are considered, and recommendations for each segment of postsecondary education are offered. Appendices include information on the survey methodology, a questionnaire, a bibliography, and a guide to writing competency requirements for California State University campuses. (SW)

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# PROMISES TO KEEP

## REMEDIAL EDUCATION IN CALIFORNIA'S PUBLIC COLLEGES AND UNIVERSITIES

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The California Postsecondary Education Commission was created by the Legislature and the Governor in 1974 as the successor to the California Coordinating Council for Higher Education in order to coordinate and plan for education in California beyond high school. As a state agency, the Commission is responsible for assuring that the State's resources for postsecondary education are utilized effectively and efficiently; for promoting diversity, innovation, and responsiveness to the needs of students and society; and for advising the Legislature and the Governor on statewide educational policy and funding.

The Commission consists of 15 members. Nine represent the general public, with three each appointed by the Speaker of the Assembly, the Senate Rules Committee, and the Governor. The other six represent the major educational systems of the State.

The Commission holds regular public meetings throughout the year at which it takes action on staff studies and adopts positions on legislative proposals affecting postsecondary education. Further information about the Commission, its meetings, its staff, and its other publications may be obtained from the Commission offices at 1020 Twelfth Street, Sacramento, California 98514; telephone (916) 445-7933.

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January 1983

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# PREFACE

Whether one calls it "remediation," "basic skills instruction," "learning assistance," "developmental education," or "compensatory education," the topic of overcoming student underpreparation for college has attracted the concern of educators and the public throughout the country. Although debate continues over definition of terms as well as approaches to the problem, one fact is clear: an alarming number of students entering colleges and universities today lack adequate skills in reading, writing, and mathematics.

In order for these students to have a reasonable chance of succeeding in college-level studies, postsecondary institutions are finding that they must provide extensive instruction and support services in these basic skills. Some educators call remediation "the curse of American higher education" and claim that universities should "never have gotten into it and ought to get out of it" (Brown, 1981, p. 13). Yet it is the fastest growing area of the college curriculum.

Prompted both by educational concern and fiscal constraints, questions about remedial activities have multiplied in California as elsewhere. Is remediation an appropriate function for colleges and universities? If appropriate, how much of it is affordable? What impact is it having on students and institutions? How much does it cost, and can its cost be reduced? And how can California keep its promise of higher education for all able young people when many youth are unprepared for college?

The magnitude of the problem led the California Postsecondary Education Commission to conclude that among nine priorities it identified for action by the postsecondary community over the next five years, the improvement of student preparation and skills ranks in the top two. In its five-year plan, The Challenges Ahead: A Planning Agenda for California Postsecondary Education, 1982-1987, the Commission committed itself to providing information on the remedial education activities of the three public segments of higher education and to working with the leaders of secondary education and the postsecondary segments to improve the preparation and subsequent performance of students (1981, pp. 16-17).

The present report seeks to fulfill the first of these self-imposed obligations. Over the past two years, the Commission has studied remedial activities in all of the State's 134 public colleges and universities that offer a general undergraduate education. Although the University of California completed a study of its own programs and services for underprepared students in 1981, no comprehensive information has heretofore existed on such activities within the California State University or the California Community Colleges. To obtain comparable data on the nature, extent, and costs of remediation within all three of these segments, the Commission staff conducted a mail survey of all general campuses. This survey instrument covered, among other topics, the types of remedial programs, courses, and support services; the use of diagnostic testing and assessment activities; the number of courses, sections, and enrollments in remedial reading, writing, mathematics, and ESL over three academic years; and the administration and costs of these remedial activities. (Appendix A describes the methodology of this survey in detail and Appendix B reproduces the survey instrument.) All eight general campuses of the University of California responded to the survey, as did the 19 campuses of the California State University and 101 of the 106 California Community Colleges, for a total response rate of 98 percent. Only the College of the Desert, Mount San Jacinto, Ohlone, Porterville, and the San Francisco Community College Centers failed to participate.

In addition, the Commission staff visited 14 campuses throughout the State and in all three segments:

California Community Colleges

- Cabrillo College
- City College of San Francisco
- Foothill College
- Los Angeles City College
- Los Angeles Southwest College
- Modesto Junior College
- Santa Monica College

The California State University

- Fresno
- Long Beach
- Los Angeles
- San Jose

The University of California

- Berkeley
- Los Angeles
- Santa Cruz

On these campuses, the staff interviewed over one hundred administrators, faculty members, and staff members about their programs for underprepared students, and the Commission wishes to thank these educators for their hospitality and comments to the staff.

The Commission also wishes to thank the members of the intersegmental Technical Advisory Committee, both those appointed by the executives of the respective segments and the State Department of Education, and others, for their assistance during the course of the study:

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California State Department of Education

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California State Department of Education

The efforts of all these committee members have enabled the Commission to offer the findings, conclusions, and recommendations that appear in the following pages.

This report consists of three parts. The first describes the labyrinthian dimensions of the problem of underpreparedness, including the historical development of remediation in America and the reasons for its burgeoning in recent years. The second part combines information from the Commission's survey and site visits to describe the dimensions of remediation in the University of California, the California State University, and the California Community Colleges. Part Three discusses the policy implications of the findings and through a series of recommendations provides a comprehensive strategy for the postsecondary segments to follow in accommodating remedial education within higher education. Following the appendices, a list of suggested readings is included for those interested in pursuing the topic of remedial education still further.

# PART ONE

## DIMENSIONS OF THE PROBLEM

> The essence of critical thinking is suspended judgment, and the essence of this suspense is inquiry to determine the nature of the problem before proceeding to attempts at its solution.
>
> John Dewey

### THE DIFFICULTY WITH DEFINITIONS

The problem with remediation begins with the word itself. Although it shares its root with remedy, remediation is a neologism, a newly coined word used almost exclusively by educators. Confusion may arise, then, by virtue of the word's very newness and skepticism because of its affiliation with a profession known for its own patois.

Remediation is also relative--to an institution, to the student, to the student's course of study, and above all, to what is regarded as college-level work. While the average SAT score of a student in a highly selective college may be in the high 600s in either the verbal or mathematics section of the test, that of a student in another less selective institution may hover around 400 points. Can there really be a shared definition of what constitutes remedial course work in these two settings? Similarly, if the level of mathematics required for a physics major is not identical to that necessary for an English major, how can a certain course be considered remedial for both? Furthermore, is the student who has been ill-prepared at the elementary or secondary level due to poor instruction, overcrowded classrooms, lack of courses, or scarce materials, "remedial" in the same way as the student who was developmentally unready to learn, reluctant to learn, or who is still unable to learn? What of students whose primary language is other than English who have been sent to the United States because of outstanding academic achievement in their home countries? Are these students remedial because they do not have the basic language skills needed to operate in another country? How do they differ from the great wave of refugees and immigrants currently swelling postsecondary institutions, particularly two-year colleges, throughout the country? Are students who reenter higher education after a long hiatus and who need help in regaining forgotten skills remedial students? If so, we may all be remedial cases (Bolker, 1981, p. 1). Save perhaps for the demarcation between literacy and functional illiteracy which the Bureau of Census has set at the fourth-grade level, now itself a matter of debate, the point at which course work may be called remedial is very difficult indeed to ascertain.

The term remediation has become so emotionally charged that many writers prefer to use what they consider less offensive euphemisms. Although their aim may be laudatory, the result is often confusion. As one commentator has pointed out, "In a compassionate effort to avoid stigmatizing the student for whom services are offered, to avoid being pejorative, and perhaps also to head off impassioned attacks from faculty, universities have adopted a language that obscures what proponents are trying to do and misleads opponents, clients, and even colleagues" (Enright and Kerstiens, 1980, p. 28). To exacerbate the situation, little if any differentiation is drawn between the synonyms used, and the reader is confronted with a plethora of words all ostensibly meaning the same thing--remedial, compensatory, developmental, basic skills, learning skills, and the like. Although their unifying feature is the attempt to prepare students for regular college work (Richardson, Martens, and Fisk, 1981, p. 19), subtle yet important differences exist among all of these terms, particularly the first three which are most frequently used to describe the programs which serve today's underprepared students. The following section will attempt to distinguish these differences and to describe the difficulties encountered in arriving at the general definition used for this study.

The American Heritage Dictionary of the English Language defines remedial as "intended to correct something" and the Dictionary of Education defines remediation as "corrective teaching." Thus remedial education has a curative connotation which relates it to a medical model in which the student is viewed as a patient to be "tested, diagnosed, prescribed for, treated, and then retested" (Clowes, 1980, p. 8). Some believe all education has this therapeutic or curative function. As the next section in this report will point out, when remedial education appeared nearly a century ago, it was used in this curative context, a context which is continued today.

The term compensatory education originated more recently and is particularly associated with schooling at the elementary and secondary levels. Popularized during President Johnson's war on poverty during the 1960s, compensatory education seeks to compensate for "environmental and experiential deficits" (Good, 1973, p. 121). Questions exist, however, as to whether intervention during the college years can more than minimally offset the pervasive deficiencies of an individual's early upbringing.

Developmental education arose as a theoretical construct and was fully developed as a practical strategy during the 1970s by the college student personnel movement in an attempt to merge the activities of academic affairs and student affairs personnel. Developmental education focuses on the development of "the whole person attending to individual differences, and working with the student at his or her developmental level" (Knefelkamp, Widick, and Parker, 1978, p. viii). Developmental education has also been defined as "a process through which all students must go and which extends beyond academic subject areas and competencies into basic decisions about life directions and purposes" (Clowes, 1980, p. 9).

Writers like John Roueche view developmental education as a more positive descriptor than remedial education because everyone can profit from a developmental education whereas remedial seems to point to individual weaknesses. For the purposes of this study, however, the term, developmental education, suffers from a certain imprecision. As it arose in the student personnel field, its reference is to the development of skills, attitudes, and strengths, and the correction of weaknesses in areas beyond academic subject matter. K. Patricia Cross contends that a useful distinction between what is remedial and what is developmental might be found in the purpose or goal of the program. She suggests that:

> If the purpose of the program is to overcome academic deficiencies, I would term the program remedial, in the standard dictionary sense in which remediation is concerned with correcting weaknesses. If, however, the purpose of the program is to develop the diverse talents of students, whether academic or not, I would term the program developmental. Its mission is to give attention to the fullest possible development of talent and to develop strengths as well as to correct weaknesses (1976, p. 31).

Clearly, each term has its difficulties and no term will please everyone. Nonetheless, the Commission has decided to use the words remediation and remedial education to describe courses and support services needed to overcome student deficiencies in reading, writing, and mathematics to a level at which students have a reasonable chance of succeeding in regular college courses, including vocational, technical, and professional courses.

It has defined remedial courses in reading as courses which provide aid to students reading below twelfth-grade level, excluding courses in speed reading.

The Commission considers remedial courses in writing to be those below the transfer-level freshman composition course (often known as English 1A).

It defines remedial courses in mathematics as courses in arithmetic, elementary algebra, plane geometry, and intermediate algebra, or courses whose content consists primarily of these subjects.

Finally, the Commission defines courses in English as a Second Language as English courses taught to students whose primary language is not English in order to prepare them for regular college courses. This generic term includes the Limited English Proficient (L.E.P.), the Non-English Proficient (N.E.P.), Primary Language, Vocational English as a Second Language (V.E.S.L.), and English as a Foreign Language (E.F.L.).

These definitions largely agree with those later endorsed by the Academic Senates of all three public segments and by the California Round Table on Educational Opportunity in a statement on remedial and baccalaureate-level course work in English and mathematics prepared by an intersegmental committee of the three senates (Academic Senates, 1982). In both cases, the definitions are not based on admissions requirements, although admissions standards are closely aligned with what is designated as remedial.

The rigor of the Commission's definitions has allowed its survey data to continue to reflect remedial efforts in California's postsecondary institutions, even though many of those institutions in the last academic year (1981-82) have more stringently defined their parameters for remedial course work. In addition, the common definitions ensure comparable data among the segments, although the mission and function of each segment differ. Because each segment is designed to serve different student populations, however, the data should be interpreted with those differences in mind. At the same time, the integrity of college course work, the college degree, and a college education must also be preserved.

## A RECURRING ISSUE: IN HISTORICAL PERSPECTIVE

> Every year thousands of pupils drift through the schools, half-cared for in English classes where they should have constant and encouraging personal attention, and neglected in other classes where their English should be watched over at least incidentally, to emerge in a more or less damaged linguistic condition, incapable of meeting satisfactorily the simplest practical demand upon their powers of expression. Much money is spent, valuable teachers are worn out at an inhumanly rapid rate, and results are inadequate or wholly lacking. From any point of view--that of taxpayer, teacher, or pupil--such a situation is intolerable.
>
> English Journal, 1912

> Most college teachers, and this seems true in virtually every country, complain that the high schools do not equip their students with the capacity to write their own language clearly and dramatically, and that, therefore, the colleges must do a kind of work in composition which the schools should have done and which the schools should be able to do better than the colleges. The result has been that in most colleges there is some remedial requirement in English composition.
>
> General Education In A Free Society, 1945

> Writing is a disgrace to American education. Millions of our boys and girls are graduating from high school and thousands from college unable to write 500 sensible words on a single subject. Teachers of composition have grown accustomed to working under impossible conditions. The best of them do huge labors and get little thanks. The worst of them, probably a majority, know next to nothing about teaching writing and can barely tell good writing from bad.
>
> "Why Johnny Can't Write," Look, June 1961

> If your children are attending college, the chances are that when they graduate they will be unable to write ordinary, expository English with any real degree of structure and lucidity. If they are in high school and planning to attend college, the chances are less than even that they will be able to write English at the minimal college level when they get there. If they are not planning to attend college, their skills in writing English may not even qualify them for secretarial or clerical work. And if they are attending elementary school, they are almost certainly not being given the kind of required reading material, much less writing instruction, that might make it possible for them eventually to write comprehensible English. Willy-nilly, the U.S. educational system is spawning a generation of semiliterates.
>
> "Why Johnny Can't Write," Newsweek, December 1975

As clearly indicated by the recurring regularity of these remarks, inadequate basic skills, or at least the public perception of them, are not unique to the moment. Well over a century ago, in his 1852 inaugural address, University of Michigan president Henry P. Tappan warned that universities were lowering their standards by admitting poorly prepared students. Placing underpreparedness in a historical context which treats the changes in college admissions standards over time, rising societal expectations regarding literacy, and the approaches taken by colleges to accommodate underprepared students may allow a more objective evaluation of the current situation.

While only 60 percent of the men and 30 percent of the women in colonial New England could read and write their own names (Lockridge, 1974, pp. 13, 43), the colonial colleges required their entering students to read and speak Latin and to know Greek grammar. By the end of the eighteenth century when virtually all men, although not women, were literate in that they could read well enough to sign their names and perhaps to write (ibid., p. 13), arithmetic too had been added for college admittance.

Even with an increasingly universal standard of literacy, most colonial colleges had to depend heavily on preparatory schools in order to find students with the requisite skills and knowledge for college. As the number of colleges increased beyond the populated centers of the East, however, such arrangements were not always possible, and, as a result, many colleges either reduced their entrance requirements to an elementary level or introduced their own preparatory divisions (Levine, 1978, p. 56). These preparatory students were often barely teenagers. Iowa State College, for example, just before the Civil War, required that entering freshmen be 14 years old and able to read, write, and do arithmetic. If the students lacked these skills, they entered the College's preparatory department (Maxwell, 1979, p. 8). In 1870, only five states did not have preparatory programs as part of higher education (Richardson, Martens, and Fisk, 1981, p. 4). As late as 1894, preparatory students comprised over 40 percent of entering students in American colleges (Levine, 1978, p. 57). Although higher education encouraged the development of high schools in part to provide the preparatory courses the colleges did not want to offer (Richardson, Martens, and Fisk, 1981, p. 3), 350 colleges still offered preparatory programs in 1915, for which college credit was frequently given (Brubacher and Rudy, 1976, p. 243).

By 1870, college admission requirements included history, geography, and English in addition to the original Latin, Greek, and arithmetic which had been expanded to algebra by Harvard in 1820 and geometry in 1844 (ibid., p. 420). The concept of literacy, too, had been enlarged to reading and writing simple messages. Most colleges were forced to admit students who had failed to meet their entrance requirements, however, owing to intense competition both for students and for dollars and because of the wide variation in college and secondary school requirements. In fact, concern about the variable quality of its candidates for admission led the University of Michigan in 1870 to inspect its local high schools periodically.

Even with attempts at the close of the century to make college admissions requirements uniform with the founding in 1890 of the College Entrance Examination Board and efforts to standardize the high school curriculum with the appointment of the Committee of Ten by the National Education Association, the problem of underprepared students continued and increased. More than half the students entering Harvard, Yale, Columbia, and Princeton in 1907 failed to meet their college's admissions requirements, and in 1926, 50 percent of the entering freshmen at the University of Indiana failed to satisfy their prerequisites, and 16 percent of the students failed at least half their classes during the first year (Enright and Kerstiens, 1980, p. 2). Obviously, the colleges had to do something to serve these students and what they did was to introduce the remedial course.

Although Cross has found the original remedial courses to be voluntary how-to-study classes offered by the dean of students (Levine, 1978, p. 57) and later by the English, psychology, or education faculties (Enright and Kerstiens, 1980, p. 3), remedial course work in specific disciplines soon arose. Harvard first offered its freshman English courses in 1874 when 97 percent of the country's high school graduates entered college (Maxwell, 1979, p. 225), because the Harvard faculty were dissatisfied with the poor writing skills of their upperclassmen. "The original purpose given for the almost universal instituting of freshman English in colleges across the country, following the Harvard model, was to 'make up' for what students 'failed to learn' in high school. In essence, freshman English is and always has been considered a remedial course" (ibid.). In 1894, Wellesley College created courses to bring students up to grade level in areas in which they were deficient (Levine, 1978, p. 57). And in 1898, the University of California introduced its Subject A requirement, requiring high schools to certify each applicant's proficiency in oral and written expression. If the student's status was uncertain, the student had to take a non-credit composition course.

After 1920, colleges and universities tried to encourage other institutions to provide remediation. The growth of community colleges was sought at least partially for this reason (Richardson, Martens, and Fisk, 1981, p. 4). Some institutions, when faced with remediation, isolated it. In 1932, in response to the Legislature's mandate to accept all state high school graduates, the University of Minnesota established a separate college to handle underprepared students.

During the 1930s, public schools emphasized remedial reading programs, and colleges followed by initiating remedial reading instruction during the latter part of the decade. New York University began a reading laboratory in 1936, and Harvard instituted a remedial reading course for its students in 1938. Between 30 and 60 percent of colleges and universities polled in 1942 either had reading programs or planned to offer them (Enright and Kerstiens, 1980, p. 3). Yet in the late 1950s, it was estimated that two-thirds of all college freshmen lacked the reading skills required for college success, and 95 percent lacked study skills (Shaw, 1961, pp. 336-337 cited in Maxwell, 1979).

After World War II, the vast numbers of veterans returning to campuses throughout the country triggered the development of academic support services which gradually expanded to accommodate all students. Remedial efforts at this time focused on high ability students who were performing poorly academically. Both the influence of Sputnik and the numbers of potential students resulted in an institutional commitment to high standards. Although approximately 380,000 students who entered college failed each year, the level of attrition seemed to bother no one (Richardson, Martens, and Fisk, 1981, p. 4). Whatever remedial services existed did so under the guise of study skills courses that were brief, voluntary, non-credit, and little publicized (ibid.).

It was not until the press for civil rights and equal educational opportunity exploded in the mid-1960s that colleges actually recruited students who were educationally disadvantaged and considered high academic risks. The Carnegie Commission on Higher Education urged two-year colleges to adopt an "open-door" policy and admit all high school graduates and otherwise qualified individuals (Brubacher and Rudy, 1976, p. 477). Most two-year and many four-year colleges adopted such a policy, while highly selective institutions initiated special admissions programs. According to 1977 figures, 95 percent of all public community colleges and 40 percent of public senior colleges abided by an open-door admissions policy (Snow, 1977, p. 1). Today, over 80 percent of all American colleges accept anyone who applies (Riesman, 1980).

At the same time that colleges and universities relaxed their admissions standards, elementary and secondary schools lowered their expectations. Yet the world was becoming increasingly technical and demanding a different--and higher--standard of literacy. These phenomena collided, and remedial courses and support services quietly appeared on campuses during the 1970s to serve the "new" student in higher education (Cross, 1976). A catalog survey done by the Carnegie Council in 1976 indicates that the vast majority of two-year and four-year institutions sampled offered either non-credit or credit courses in reading, basic writing, and arithmetic (Levine, 1978, p. 67). Campuses also developed learning assistance centers which provided individual assistance in the form of tutoring, media-assisted instruction, workshops, and the like for the underprepared student. In 1978, a comprehensive survey identified 1,848 learning centers on 1,433 campuses in the United States and Canada (Maxwell, 1979, p. 104). In another survey, 61 percent of the campuses reported having such a center and 57 percent of these had existed since 1970 (Richardson, Martens, and Fisk, 1981, p. 26). The number of learning centers doubled between 1974 and 1977 with four-year institutions showing the greatest increase (Maxwell, 1979, p. 104).

American higher education has had over a century's experience with remediation. Yet the lessons of the past do not appear to have made our institutions any wiser in struggling over the Gordian Knot before them: Is remedial education an integral part of higher education? Should it be? Where does it fit in the whole of the academic enterprise?

Today, remedial education is the fastest growing area in the college curriculum, and the larger problem of functional illiteracy plagues the nation. A staggering 23 million Americans--one in five adults--lack the reading, writing, and computation abilities needed to handle the minimal demands of daily living, and an additional 34 million are able to function but not proficiently (Hunter and Harman, 1979, p. 27). Nationwide, students leave high school with reading scores slightly below the eighth-grade reading level (Roueche, Moore, Spann, February 1980). Indeed, thirty states require an eighth-grade reading and writing level of students seeking a high school diploma (Hunter and Harman, 1979, p. 25). Two-thirds of the nation's high school seniors don't know how the country selects a president (Keisling, 1982, pp. 28-29). An estimated 34 percent of high school seniors who graduate from Philadelphia high schools are functionally illiterate (Philadelphia Inquirer, July 11, 1982).

Illiteracy in youth has lasting consequences for adulthood, as this job application letter reproduced from The Wall Street Journal (Hymowitz, 1981) poignantly illustrates:

> Well after I graudate from high school I had plan to find me a full-time job at a bank as a clerk. I like working with and around people and met new people and see different face. I would love to have a job at this bank because working at a bank meet so much to me and the more important thing in my life.

Thousands of U.S. companies must provide remedial courses in basic subjects as the troubles besetting the classroom reach the nation's offices and factories. At a large New York insurance firm, an estimated 70 percent of all correspondence must be retyped at least once because typists working from dictation recorders cannot punctuate sentences and often misspell words. An employee of a Pennsylvania manufacturing firm didn't know how to read a ruler and mismeasured $700 worth of steel sheet in one morning. The same company purchased electronic equipment for inventory and schedule control, but employees fed the machines incorrect five-digit numbers, sending the wrong spare parts from the warehouse to shops. So far the company has spent nearly $1 million to remedy the error (Hymowitz, 1981, p. 1).

Underpreparedness in the college bound or for others is not, nor has it ever been, a temporary problem which will someday disappear if one just waits long enough. It is, instead, a problem of enormous magnitude and complexity in need of long-range solutions rather than short-term holding actions. This section of the report has attempted to join underpreparedness for college with declining literacy, for the two are not unrelated. Although the primary function of this study is to examine underpreparedness for college, this problem cannot be disassociated from the broader context. The following section will consider some of the issues related to underpreparedness in order to demonstrate the complexity of the problem and to place remedial education in its current context.

## CURRENT CONTEXT: A NECESSARY PERSPECTIVE

The decline in basic skills both nationally and statewide has occurred slowly, and its causes are seeded deeply within the fabric of American society. If one single event precipitated public awareness of the far-reaching underpreparedness of the nation's youth, it was the 1975 revelation that the average scores on both the Scholastic Aptitude Test (SAT) and the American College Test (ACT) had been slipping steadily for almost two decades.

### Test Score Decline

Between 1968 and 1980, mean SAT scores of college-bound seniors nationally fell over 40 points on the verbal test and 26 points in mathematics. Scores of California students have largely paralleled this decline, although scores for freshmen entering the University of California, that is, the top 12.5 percent of the State's high school graduates declined more sharply still. Between 1968 and 1979, mean scores of UC entering freshmen declined 61 points on the verbal section and 30 points on the mathematics. Over these same years, however, UC-bound students still attained higher mean scores than students nationally or throughout the State.

Other standardized tests confirm the decline in academic preparation. An oft-quoted report of the National Assessment of Educational Progress indicates that 42 percent of 17-year-old Black youth and 8 percent of whites are functionally illiterate. Scores on these tests also indicate that science and mathematics achievement of 17-year olds has declined appreciably. Scores on the Test of Standard Written English (TSWE) which many high school students take at the same time as the SAT also illustrate a drop in academic performance. Average scores on the TSWE have declined each year since the test was introduced in 1975. Researchers have analyzed other major tests, including the ACT, the Iowa Testing Program, and the Minnesota Scholastic Aptitude Test, and have found a consistent pattern with achievement rising until the mid-1960s and then declining.

The year 1981 saw a halt to the decline, however, when the average scores for college-bound seniors nationwide remained at 424 on the verbal section of the SAT and 466 on the mathematics section, from the total possible range of 200 to 800. For the first time since 1968, neither the verbal nor the mathematical scores declined. This year (1982), for the first time in 19 years, SAT scores nationally rose two points on the verbal section to 426 and one point, to 467, on the mathematics part. Scores on the Test of Standard Written English also increased. Whether this is a temporary remission, a slowing of the decline, or the reversal of it remains to be seen.

In California, the situation is even less conclusive. In 1981, the average score on the Scholastic Aptitude Test rose by two points on the verbal and three in mathematics, and California students exceeded the national average on both portions of the test. The average score of California students on the American College Test also inched upward from 19.0 in 1980 to 19.1 out of a total 36 points in 1981. In 1982, however, counter to the trend for college-bound seniors as a whole, SAT scores for California seniors declined from 426 to 425 on the verbal section and from 475 to 474 on the mathematics portion. California students now fall below the national average by one point on the verbal part of the test and remain seven points above the national average in mathematics. The California average on the TSWE also dropped. Whether the decline in scores is significant or skewed because of the increase in students taking the test in California is debatable.

Since average ACT scores nationwide continue to fall, and SAT and ACT scores nationwide and in California are still far below the averages of the late 1960s, it is premature to assume that the startling decline of the last 19 years has finally ended. The most recent data do not a trend make, and the 1982 scores are still a long way from the 478 verbal and 502 mathematics national averages in 1963 when the long steady decline began.

## Reasons for the Decline

A number of factors, rather than one single cause, have likely contributed to the decline in standardized test scores. The College Board's blue ribbon panel to investigate the causes of the score decline concluded that "complex interacting factors relating to the changing membership in the population tested" caused two-thirds to three-quarters of the SAT score decline between 1963 and 1970 and about a quarter of the decline from 1970 to 1977 when the College Board report was issued (Wirtz and others, 1977, p. 46). In other words, the population of test takers expanded during the 1960s to include larger numbers of minorities, women, and low-income students for whom college opportunities had previously been limited and who might for a number of reasons score less well on a standardized test.

According to the College Board, these three groups "have always registered substantially lower-than-average scores" on the SAT. Information provided by the SAT Student Descriptive Questionnaire indicates that Black students average approximately 100 points below the overall average on the verbal test and about 115 points lower on the mathematics section. Women, although traditionally averaging the same scores on the verbal portion of the SAT as men, register lower scores in mathematics. Students from families with the lowest incomes average about 100 points lower on both portions of the test than do students from families with the highest incomes. The deeper reasons behind these discrepancies will not be discussed in this report. But even when the score differences of these populations are noted, they do not account for an appreciable proportion of the total decline.

Furthermore, since 1970, the SAT-taking population has remained fairly stable. Yet test scores have dropped even more dramatically, particularly in the number and proportion of high-scoring students. The number of seniors who scored over 650 fell from 53,000 (5.3%) in 1972 to 29,000 in 1980 (2.9%) (Ravitch, 1981, p. 24). This national decline of high-scoring students is replicated in California. In 1979, every campus of the University of California, except Berkeley, had fewer entering students scoring above 550 on the SAT verbal test than in 1968, despite an increase of 4,500 students overall taking the test (University of California, 1981, p. 14). The decline in test scores, then, is a pervasive problem, not confined to any ethnic, socioeconomic, or gender group, but rather one which applies to all test takers and which affects all institutions.

The College Board panel identified several other developments accounting for the decline in test scores: a reduced number of required high school courses; automatic grade promotion, often called "social promotion"; grade inflation; increased school absenteeism; watered-down textbooks; less homework; fewer quality teachers; lower college entrance standards; the availability of remedial course work at the postsecondary level; overuse of television; a changing family structure; the social costs of Vietnam and Watergate; and declining student motivation. Although the College Board issued its report in 1977, these factors remain symptoms of the academic malaise which continues to overcome the country. Yet within the last five years, many educational institutions have attempted to alter those conditions within their province. The following section describes several of these efforts.

## Minimum Competency for Students

In the late 1970s, in response to declining test scores, a "minimum competency" movement arose, spreading from one state (Arizona) in 1976 to 38 states, including California, by 1980. When the California Legislature passed legislation in 1976 mandating proficiency testing as a prerequisite to high school graduation (AB 3408-Hart), the bill heralded a new emphasis on educational standards in the State. In 1977, the Legislature extended the proficiency requirements to grades four through six (AB 65-Greene). Students are assessed at least once in grades four through six, once in grades seven through nine, and twice in grades ten and eleven in the basic skills of reading comprehension, writing, and computation.

Some feeling exists today, however, that the stress on minimum competency does not encourage higher levels of achievement and scarcely serves the college-bound student at all. Because local school boards determine the content and level of the test to be given their students, just as they do course requirements, no uniform standards exist in the State. Indeed the law specifically precludes the State Department of Education and the State Board from adopting any statewide proficiency test or conducting any extensive monitoring or compliance reviews of district implementation of the law. The minimum competencies expected of students in one district, therefore, may be less than those expected of students in a neighboring district. A study published by the State Department of Education in April 1980, shows that although not much variation appears, on the average, in the complexity of the skills assessed, significant variation does occur in the type of skills assessed, that is, life-coping skills vs. academic skills.

Districts may also "teach to the test" by offering basic skills learning labs, remedial courses, and individualized programs within regular classes so that their students will pass the test and obtain their diplomas. A study soon to be issued by the State

Department of Education will examine the remedial services provided by local districts to ensure passage of the proficiency test.

In 1981, 9 percent of all California high school seniors did not graduate. Of those students, 1 percent passed the required courses but failed the proficiency test; 3 percent failed both their course work and the test; and 5 percent failed the courses but passed the test. When one considers the stress on minimum competency, a minimum which is likely to be interpreted quite differently by each of the 1,046 local districts in California that maintain high schools, and the fact that a district can pretest and retest without limit, it is difficult to ascertain if the passing rate is an accurate reflection of student preparedness or rather of local political realities.

Assemblyman Hart who drafted the initial legislation has been quoted as saying, "If we got a 99 percent pass rate, there is no reason we shouldn't be moving those standards higher." It has long been accepted that graduation from high school and even good grades in high school do not necessarily indicate basic competency, let alone readiness for college, because of the uneven quality of secondary schools. It may also follow that passing a competency test with no absolute standard does not demonstrate competence for anyone. The test clearly states that California demands at least minimum competency from its high school graduates. Questions have been raised, however, as to whether minimum competency is good enough.

In a society that is becoming increasingly reliant on technology, lower-level skills will no longer be sufficient for employment. According to a report issued by the Education Commission of the States, tomorrow's basics will include such higher-level skills as evaluation and analysis; critical thinking; problem solving; organization and reference skills; and several modes of communications skills (Forbes and Gisi, 1982). "Many students believe they will emerge from school into an electronic world that will require little reading and less writing," reports the National Assessment of Educational Progress, a federally supported research organization. "Nothing could be further from the truth. In a world overloaded with information, both a business and a personal advantage will go to those individuals who can sort the wheat from the chaff, the important information from the trivial." It is possible that the level of competency established by California school districts is more a short-term solution rather than a real answer to the long-range needs of students.

## Teacher Competency

The other side of the competency question involves the competencies of teachers themselves. Grave concerns have been voiced from many sectors about the quality of those teaching the nation's youth as well as about those planning careers in education. Aside from an abundance of anecdotal evidence, factual data exist to substantiate that many teachers are significantly less well qualified than they were several years ago. The average SAT verbal score of 1981 college-bound seniors planning to major in education was 33 points below the national average (424/391), while their average SAT mathematics score was 48 points lower (466/418). California students planning to major in education scored 27 points below the national average on the SAT verbal test (424/397) and 42 points lower in mathematics (466/424). According to Myron Atkin, dean of Stanford's School of Education, "the nation's schools are threatened by a steep decline in the quality of students entering the teacher training institutions. The academic aptitude of high school seniors choosing teacher training is at the bottom of entering college classes" (Hechinger, 1981, p. 24).

Among graduating college seniors, education majors ranked fourteenth out of 16 fields in the National Longitudinal Study's sample of the class of 1976. The only students to rank lower were office-clerical and vocational-technical students (Weaver, 1979, p. 30). The scores of college graduates taking the National Teacher Examination (NTE) have also declined steadily. The weighted composite mean score for 1971-72 was 603 points which had fallen to 551 points for the period from 1978 to 1981, a decline of over 50 points in 10 years (Majetic, 1982). Information compiled by the California Commission on Teacher Preparation and Licensing, however, shows that scores in the State have remained essentially constant from 1974 to 1981, despite a news article which bemoans that a score not close to passing nine years ago would earn a valid California teaching credential today. Efforts to verify this information with the Commission on Teacher Preparation and Licensing have proved unsuccessful.

Many teacher training institutions make no effort to determine the SAT scores of their applicants and often set their entry level standards lower than that ordinarily expected for graduate level work. Teaching methodology is stressed over subject matter competence. In one state, 30 percent of the chemistry teachers and 63 percent of the physics teachers had less than 20 semester hours of college credit in their specialty subjects (Keisling, 1982, p. 32). This lack of intellectual rigor often turns away the best and brightest students, as do the low salaries, lack of prestige, questionable job security, overcrowded classrooms, and discipline problems which they will face throughout their careers.

Even when the best and brightest do apply, the most able of them leave the profession within five years, according to a recent study from the National Institute for Education. The study concludes that "the relative position of teaching and the status structure of American occupations has declined over the past 30 years so that its status, as a white collar job, is even more marginal than in the past" (Schlechty and Vance, 1982). Indeed, in 1961, 49.9 percent of teachers surveyed by the National Education Association said that if given the chance, they would become teachers again; in 1980, only 21 percent gave the same positive response (National Education Association, 1980).

Since teacher training institutions rarely require exit-level examinations to ensure that their own graduates possess the necessary skills to teach, many states have instituted minimum competency tests for their teacher applicants. Seventeen states presently require or will require by a definite date that applicants for teacher certification be tested for competency. In the first year of its tests, Louisiana flunked half its graduates. California lawmakers approved such legislation for the state in 1981. Assembly Bill 757 (Hart) stipulates that no credential, permit, or certificate can be issued to anyone who cannot demonstrate proficiency in basic reading, writing, and mathematics in the English language. The contract to develop the proficiency test was awarded to the Educational Testing Service, and testing began during winter 1982.

Teaching and teachers are in an untenable position. Public confidence in both has dwindled. The profession has assumed a largely defensive posture that disallows any suggestion of improvement or change. And the teachers' unions have transferred "some of the worst aspects of unionism to an enterprise whose major purpose is incompatible with the time clock" (Keisling, 1982, p. 34). The Postsecondary Education Commission is considering the idea of a comprehensive strategy to increase the quality and quantity of public school teachers (June 21, 1982). Implementation of such a plan might put the question of teacher underpreparedness finally to rest.

## The Changing High School Curriculum

During the 1970s, perhaps in part as a response to the preceding decade's call for relevance and greater flexibility in the curriculum and partially in response to fiscal pressures, a nationwide trend developed to reduce the number and commonality of the courses required for high school graduation. As a result, fewer students have taken fewer years of the more traditional basic courses that are needed not only for college but also for a fruitful life.

California dropped all State requirements for graduation, except physical education, more than a decade ago, giving the almost 340 local school boards that govern high schools the responsibility to determine the number of courses to be offered, the units needed to graduate, and the attendance to be maintained. Only six states--Colorado, Connecticut, Florida, Massachusetts, Wisconsin, and California--permit local school boards to set minimum academic standards. At the same time, public funding for education has steadily declined, with California plummeting from ninth place in state funding of schools as a percentage of personal income during the 1973-74 school year to fiftieth among the states in 1982. And in just two years, the State has fallen from twenty-first to thirty-fifth in the average amount spent per student, according to the National Education Association. Many districts cut from seven periods a day to six and eventually to five and abolished their advanced placement courses in order to meet the dual pressures of decreasing enrollments and decreasing dollars.

Electives became the vogue during the decade, and courses like "Mathematics for Photographers" and "Filmmaking" were substituted for more rigorous academic course work. Between 1971-72 and 1974-75, enrollment in English composition classes fell 77 percent in California, while enrollment in contemporary literature electives like "Children's Literature," "Detective Fiction," and the like nearly doubled (Wirtz and others, 1977, p. 26). On the other hand, districts were expected to respond to social pressures, and the curriculum expanded to include career education, sex education, consumer education, drug education, values education, moral education, and death education (Ravitch, 1981, p. 26). The whole of education fell victim to its parts.

During the decade of the 70s, then, students had less time in school, fewer academic courses, and more electives from which to choose. Only 34 percent of all high school seniors nationwide in 1980 took three years or more of mathematics, while only 23 percent took three years or more of science (Peng, Fetters, and Kolstad, 1981, p. 3). Only 8 percent completed a course in calculus, perhaps because only 31 percent of the high schools even taught calculus. And although most seniors have studied biology, slightly over one-third have had chemistry and as few as 10 percent have taken physics.

These national figures appear comparable to those compiled for California high school students in 1980. Twenty-eight percent of all California high school students had taken three years or more of mathematics and 20 percent three years or more of science (Sells, 1982). The California figures are limited to algebra, geometry, trigonometry, precalculus, calculus, biology, chemistry, physics, and other solid courses. Eleven percent of California high school seniors enrolled in a fourth year mathematics course and 9 percent in a fourth year of science.

When only SAT-taking students are compared, similar differences appear, although the data may be somewhat skewed because a larger percentage of California seniors take the SAT than do students nationwide. According to data compiled by the College Board on college-bound seniors in 1981, 81 percent of college-bound seniors nationwide enrolled in four years of English, while 77 percent of California college-bound seniors took an equivalent amount. In mathematics, 49 percent of the seniors tested nationally took four years of the subject compared to 41 percent of the seniors in California. The same percentage of California students (34%) took social studies as did students nationally. Four years of foreign language were taken by 13 percent of the country's seniors and by 10 percent of those in California. Only 1.7 percent of seniors nationwide had four years of biological sciences compared to 1.1 percent of college-bound seniors in California, and 3.2 percent of seniors across the country and 1.7 percent in California took four years of physical sciences. In summary for 1981, then, the vast majority of college-bound students in-state and out took four years of English, four years of mathematics, three years of social studies, two years of foreign language, one year of biological science, and/or one to two years of physical science. The content and rigor of these courses have, of course, not been evaluated, and substantial differences exist between the percentages of males and females taking the courses, particularly in mathematics and the sciences.

When one compares these data to those of only two years before when college-bound students nationwide taking an average of four years of mathematics was 55 percent compared to California's 38 percent, it is clear that the glaring discrepancies of the past between students in California and in the rest of the country are disappearing. While California students still lag behind in all discipline areas, the distance is dwindling. Students are obviously being urged to take more solid courses during their high school careers. The difference in science education, however, between all U.S. students and those in countries like Russia, Japan, and West Germany remains a serious problem. Students in Japan and the Soviet Union study two to three times as much mathematics and science as American students. A 1980 study for the National Science Foundation reports that high school graduates in the Soviet Union have taken five years of physics, four years of chemistry, five years of biology, and two years of calculus (Wirszup, 1980, pp. 1, 6).

Education is caught today in a cross current. Many articles both in the popular press and in scholarly journals as well as speeches given at national and state enclaves refer to the declining test scores and number of courses taken by high school seniors. Yet both artifacts of student preparedness are beginning to change in a positive direction. Whether this shift will continue remains, of course, to be seen and depends on the continuing efforts of all segments of education.

## Studies of the American High School

At least 16 major research studies on the American high school are currently in progress (Sleeter, 1982). Among them is the College Board's ten-year program, called the Educational EQuality Project, to increase the quality of secondary education and to ensure equality of access to educational and career opportunities. The first phase of the project culminated in a statement of the basic academic competencies needed by all high school students, whether bound for highly selective four-year universities or open-admissions two-year colleges. The curriculum should include courses in English, mathematics, foreign language, history or social studies, natural science, and the visual and performing arts. The College Board issued a draft called "Preferred Patterns of College Preparation" which provides a more detailed definition of what students should learn in each of these courses.

Also at the national level, the National Commission on Excellence in Education, appointed last summer and headed by David Gardner of the University of Utah, will spend 18 months studying U.S. schools and comparing them with schools in other countries; the National Commission on Higher Education Issues under Robben W. Fleming is looking at what higher education can do to counteract the poor preparation of college students in basic and advanced learning skills; the National Association of Secondary School Principals/National Association of Independent Schools is reviewing quality in secondary schooling; the Council for Basic Education is sponsoring a project to reverse curriculum sprawl; and the Carnegie Foundation for the Advancement of Teaching is studying the high school curricula in relation to college programs. Preliminary data from the Carnegie report, which will be released this year, indicate that 10 to 15 percent of U.S. high schools are very good, while 25 percent do very little educating at all.

## Secondary School Reform

In the meantime, individual states and their school districts are taking steps to elevate academic standards for their students. Dallas high schools, for example, are rewarding students who take honors courses and senior-level advanced placement courses with bonus grade points. South Carolina has initiated a statewide project to improve student performance on the SAT by identifying weaknesses in the preparation of their college-bound students. The West Virginia Board of Education has increased high school graduation requirements, and a proposal to change requirements for a high school diploma has been submitted to the Tennessee Board of Education. Oregon has established subject unit and competency requirements for high school graduation. The New York Regents voted to require testing of all new teachers, and Oklahoma passed legislation requiring that the performance of all new teachers be monitored by a committee that must include a faculty representative from a teacher training institution.

Similar efforts to improve standards and performance are occurring in California. The State Department of Education is currently completing a study of the high school curriculum focusing on the following three questions:

1. What is the nature and rigor of the high school curriculum (with emphasis on higher-level courses in mathematics, science, and English) today, as compared to 5, 10, and 15 years ago?

2. What factors impede students' completion of courses required for graduation?

3. Have state proficiency requirements caused schools to reduce their higher-level academic course offerings?

The study uses case studies of selected high schools chosen to represent statewide variation in district and school size, socioeconomic status, language and ethnic composition, and achievement. The report will be available in the near future.

The Coalition for the Improvement of Intermediate and Secondary Education, an independent task force representing groups as diverse as school boards, school administrators, teachers' unions, and the League of Women Voters has issued action plans from each of its subcommittees currently examining student standards, student absenteeism, and student behavior. The Subcommittee on Student Standards has declared that:

> it is not particularly important whether California students score slightly above or slightly below the national average; nor is it important whether California Assessment Program scores went up by two-tenths of a point or down by an equivalent amount last year. The fact is that California students are not well-prepared either for college or for work--and, as educators we must do something about this problem.

To effect this goal, one of the group's more important recommendations is that "the State Board of Education should coordinate the development of model graduation requirements and curriculum standards, set forth in terms of specific competencies, and recommend these to local school boards by mid-1983." Further, the Subcommittee recommends that the State Board "require all local school districts in California which include intermediate or secondary schools to review their curricula by mid-1984 . . . " (Coalition, 1982). If these plans are approved and implemented, the State Board may manage to upgrade both the number of academic courses required for graduation and the quality of their content, while still respecting the local autonomy of individual school boards.

During this process of curricular reform, State and local boards may need to turn their attention to several subsidiary, yet nonetheless important, problems identified by the College Board. Strong circumstantial evidence exists that textbook content commonly falls two or more grade levels below the grade in which the text is used. Absenteeism and vandalism remain perennial problems.

Students have also been earning higher grades while doing less work. The self-reported average high school grades of college-bound seniors increased steadily throughout the 1970s. In 1981, college-bound seniors in California reported higher grade point averages and higher grades than seniors nationwide in every discipline but mathematics. At the same time, studies of high school seniors nationwide show that the amount of time spent on homework per week has declined. In 1972, just over half the seniors surveyed (54%) spent less than five hours per week on homework compared to over two-thirds of the seniors (68%) in 1980. Almost one-third of the 1972 seniors (30%) spent five to ten hours per week on homework, while in 1980, less than one-fifth (18%) devoted this amount of time (Peng, Fetters, and Kolstad, 1981, p. 7). James Coleman has documented that three out of four students do one hour or less of homework each school night, while one of four does less than one hour each week (cited in Ravitch, 1981, p. 26). The situation in California bears examination, and the recommendations of the aforementioned Coalition subcommittees may result in action on all these matters for the state.

Declining standards also relate to the amount of time devoted to instruction in the classroom. The 175-day school year and instructional day in California rank among the shortest in the nation. At the end of the twelfth grade, California students fall 16 months behind the national average in actual time spent in school. Current State law mandates only 230 minutes per day in class for grades 1-3 and 240 minutes in grades 4-12. Recently proposed legislation would require at least 250 minutes for the lower grades and a minimum of 300 minutes for the upper grades.

In addition to the length of the day itself, a question also arises as to how much time is devoted during the day to actual instruction. In 1980, an investigative team observed that the average public school nationally provided three hours each day of instructional time. In one junior high school visited by this team, the typical student spent two hours and 12 minutes in academic class work (Ravitch, 1981, p. 25). A study done recently by the City University of New York states that an average of only 16 to 18 minutes per class hour is devoted to actual teaching time, with the balance being spent on classroom management, preparation, and discipline.

Each of the factors identified by the College Board as being in part responsible for the test score decline and, therefore, for student underpreparedness and underachievement, is inextricably intertwined, as both cause and effect. Thus a tremendously complex set of issues is generated which requires examination, discussion, and resolution. Although it may appear that there are no discrete components to underpreparedness and that the problem is too deep and too large to solve, many believe that it is still possible to reverse the erosion of academic quality found at every level of American education. Some steps taken recently by the secondary school establishment have already been enumerated. The following section describes some of the efforts currently being made by postsecondary institutions.

## Postsecondary Reform

Perhaps the major catalyst for reform at the high school level has been the move by colleges and universities throughout the country to strengthen their admissions requirements and to specify their expectations for entering students. Ohio with its system of open admissions was one of the first states to develop a college preparatory curriculum clearly defining collegiate expectations for entering students and has served as a model for changes in other states, including California. In September 1980, the Ohio Board of Regents and the State Board of Education jointly appointed the Commission on Articulation Between Secondary Education and Ohio Colleges, whose report in April 1981 detailed what students should take in high school in order to succeed in Ohio's colleges. Beginning in 1983, Ohio State University will grant unconditional admission only to high school graduates who have completed this curriculum which includes at least four years of English, and three years each of mathematics, science, social science, and a foreign language; all otherwise qualified students who have not completed all the required high school courses will be accepted as "conditional students" who must make up their course deficiencies.

In Kentucky, another open admissions state, the 1981 Pritchard Report calls upon the state's universities to establish admissions criteria beyond the high school diploma that reflect each institution's mission and function; to identify and agree upon basic or minimally acceptable college preparatory curricula to be required of all entering students; and to develop and require a program of basic skills testing for all students upon entry into higher education. The University of Utah, in a move to end its policy of open admissions, has suggested that applicants take four years of English, two of mathematics, three of biological or physical sciences, four of social sciences or history, three of a foreign language, and two of fine arts. A university official has commented that in the next four years the university will require applicants to have completed a prescribed high school curriculum (Chronicle of Higher Education, February 24, 1982). Idaho's Commission on Excellence in Education has gone a step further by recommending in its September 1982 report that state colleges and universities abolish existing open admissions policies entirely and that any remedial class offered at Idaho's four-year universities be provided outside the regular curriculum with the student paying the total cost.

Admission standards at the University of Texas at Austin have already been raised for freshmen entering this fall, and Florida has recently adopted stricter admissions requirements for its nine public universities. The South Dakota Board of Regents has proposed that the three public institutions in the state raise their standards by fall 1983 and accept only the upper half of high school classes rather than the current two-thirds. West Virginia University has doubled its mathematics requirements for high school graduates seeking admission after a university study found nearly half of all entering freshmen deficient in mathematics skills. A number of other states, including Arizona, Montana, New Mexico, Oregon, Washington, and Wyoming are in varying stages of discussion regarding new admissions requirements.

Four-year colleges and universities are not the only institutions raising their admission requirements. Recent actions taken by two-year institutions include those by Miami-Dade Community College, which has become well-known nationally not only for its early efforts to emphasize academic standards but also for its computer-based instructional development and research system. Students must overcome deficiencies in basic skills, complete courses in proper sequence, and maintain a minimum grade level. They are monitored through a program called Standards of Academic Progress. During the last three years, the college placed on probation or suspended more than 11,000 students whose grade-point averages fell below 1.5.

In addition, Essex County College in New Jersey plans to establish admission standards for the first time in January 1983. Its decision followed a study of student records which indicated about 85 percent of new students had serious academic deficiencies. The new standards will require incoming students to demonstrate mathematics and reading skills at the eighth-grade level. Another two-year institution in New Jersey, the Passaic County Community College, has restricted enrollment in remedial courses to students who can read at the eighth-grade level or above; other applicants must attend local adult-learning centers until ready for community college work (Chronicle of Higher Education, September 29, 1982).

California, with its three segments of public higher education, serves nearly 2,000,000 students and thus has an enormous impact on secondary standards. The California Community Colleges maintain no admissions requirements and stand open to all high school graduates and others who are at least 18 years of age. However, both four-year systems, the California State University and the University of California, have changed their admissions requirements within the last year.

At their June 18, 1982 meeting, the Regents of the University of California unanimously adopted the following admissions standards:

- Students must take a minimum of 16 units in high school. A unit is a year-long high school course; a semester course is a half unit. Of the 16 units, 15 must be in academic or college preparatory subjects, that is, in English, mathematics, laboratory sciences, foreign languages, history, social sciences, or fine arts. The current minimum is 11 academic units.

- Seven of the 15 academic units will have to be taken during the last two years of high school.

- Course requirement changes raise the required years of mathematics from two to three (elementary algebra, geometry, and intermediate algebra) and add social science and fine arts courses as optional college preparatory electives.

- Grades in the third year of mathematics will be counted only if they improve a student's overall grade point average.

- Required courses include one year of U.S. history or a semester of U.S. history and a semester of civics or American government; four years of college preparatory English composition and literature; three years of mathematics, one year each in elementary algebra, geometry, and intermediate algebra; a year-long course in a laboratory science taken in the tenth, eleventh, or twelfth grade; two year-long courses taken in a single foreign language; and four additional college preparatory units to be chosen from at least two of the following: history, English, advanced mathematics, laboratory science, foreign language, social science, or fine arts.

- Students graduating from high school in June 1984, will receive extra credit for up to four units of honors level courses when their grade point averages are computed for admission.

- All other changes will apply to students graduating from high school in 1986.

The Trustees of The California State University system adopted new admission requirements consisting of four years of college preparatory English and two years of college preparatory mathematics in November 1981. These requirements will be fully phased-in between 1984 and 1986. Such course-specific admissions criteria represent a new departure for this segment and as such clearly signal a concern about increasingly underprepared students. A Commission agenda item in December 1981, recounts the evolution of admission standards for both the University of California and the State University systems (California Postsecondary Education Commission, 1981).

An ancillary document related to the new admissions policies is the statement on academic competencies expected of entering freshmen issued by an intersegmental committee of the three California faculty senates. This joint faculty document which was endorsed by the senates of the University of California, the California State University, and the California Community Colleges, specifies the skills in English and in mathematics needed by high school students to begin college work. Called "the most ambitious effort in years to improve the academic quality of California's public high schools and colleges" (McCurdy, 1981, p. 6), the statement reaffirms the need for rigorous standards at both the secondary and postsecondary levels.

Educators differ, however, over whether tougher college entrance requirements will produce needed reforms at lower levels. As early in the current movement as 1979, the Basic Skills Task Force of the University of Wisconsin system declared, "Suggestions that basic skills problems would be eliminated if colleges raised admissions requirements offer the temptation of simplicity, but they lack recognition of the full scope or complexity of the issues" (University of Wisconsin system, 1979, p. 10). Not all universities that have already instituted more stringent requirements are happy about them. The Chancellor at the University of Tennessee at Knoxville where admissions standards were raised told trustees that he regretted the action (Reese, 1981, p. 13). At a June 1982 hearing by a federal commission studying ways to improve American education, Stanford's dean of admissions who also serves as chairman of the College Board questioned whether tightened admissions requirements would improve academic programs and student performance in the high schools. He foresees problems generated by increased requirements at a time of financial stringency and declining enrollments for colleges. He also queried whether high schools would be able to give their students a fair chance of meeting these requirements (Chronicle of Higher Education, June 30, 1982).

Some universities, such as those in Florida, Texas, and Tennessee, are using more stringent admissions standards to curtail enrollments. Other institutions worry about the effect that the diminishing numbers of 18- to 22-year olds will have on their enrollments and wonder if they must accept everyone who applies, with or without the necessary competencies, in order to fill the buildings and occupy the faculty built during the "golden years" of higher education. Others fear the impact of the new admissions requirements on minority students whose early education frequently suffers and for whom college is often a last brave chance. The Commission on Higher Education of Minorities has suggested that colleges should devise new ways to measure students' potential for learning rather than ranking students on the basis of test scores and grades (Astin, 1982, p. 195). Institutions may well increase admissions requirements without exploring the creative avenues that this Minorities Commission would prefer.

As suggested by the College Board's Educational EQuality Project, access and quality need not be mutually exclusive. As long as improved secondary education is sought for all students and provisions are made to judge college applicants not on some immovable absolute scale but one which takes into account their potential and will to succeed, the gains in equal opportunity which have been hard-won over the last two decades need not be lost.

## Remediation as Cause for Reform

These increased admissions standards and detailed competency statements have arisen as well, as a reaction against the remedial course work currently being offered even at the most selective institutions. Called, on the one hand, "the curse of American higher education" (Brown, 1981, p. 13), remedial education is, on the other, the fastest growing area of the curriculum. Remedial courses nationally increased 22 percent between fall 1979 and fall 1980 compared to the total number of courses which grew by an estimated 15 percent during the same time period (Magarrell, 1981, p. 1). Preliminary data for 1980-81 and 1981-82 tend to suggest that no significant changes will occur in the proportion of remedial courses found in U.S. colleges and universities (Minter, 1982).

Ohio State imposed new admissions standards following a report that 42 percent of all entering freshmen were taking remedial work in mathematics or writing at a total cost of between 10 and 12 million dollars. (In the Ohio Regents' second report, approximately 19 percent of entering students required remediation in mathematics and 14 percent in English. This percentage change from the earlier figures can be attributed to a redefinition of remediation by two large institutions rather than to improved student competencies.)

At the University of Missouri at St. Louis, half the freshmen are placed in a remedial course.

An estimated two-thirds of postsecondary institutions nationwide must provide remedial reading and writing courses for their students. In an innovative attempt to tackle this problem, Bard College requires its entering freshmen to attend a six hour a day "Workshop in Language and Thinking" in the three weeks prior to the beginning of the academic year. During this precollege course, the students produce more written work than many freshmen do in a semester.

Several other states including Wisconsin, Virginia, Colorado, and Louisiana have sponsored studies on the remedial activities provided by their universities and colleges. A Wisconsin task force studying basic skills found that in 1980-81 one quarter of the freshmen in the system fell below required levels. Virginia's State Council of Higher Education has recently commissioned a two-year study of remedial education after estimating that the state's costs in the area are at least 13 million dollars and rapidly increasing. A preliminary report in February 1981 estimated that of 1,000 students entering Virginia State University each year, 800 needed some kind of remedial assistance. Colorado conducted its first study of remedial education in public colleges and universities in 1975 and has recently joined with its State Department of Education to assess policy issues related to college expectations and remedial instruction. A Louisiana study found that over 50 percent of the students enrolling in Louisiana's open admissions system needed remedial support because they read at or below the eighth grade level (Roueche, Moore, and Spann, 1980, p. 3).

Remediation has become a pervasive issue, affecting the very heart of the educational endeavor. Administrators worry about it; faculty are daily faced with it; students suffer from it; newspapers inveigh against it; and the public pays for it. The second part of this report describes how public postsecondary institutions in California deal with remediation--its nature, its extent, and its costs.

# PART TWO

## THE NATURE, EXTENT, AND COSTS OF REMEDIATION IN CALIFORNIA'S PUBLIC POSTSECONDARY INSTITUTIONS

> Oftentimes great opportunities come disguised as insoluble problems.
>
> John Gardner

The heart of the Commission's study of remediation lies in the data generated from its survey of public colleges and universities in the State and from Commission staff visits to selected campuses. This part of the report presents the major findings of the survey, segment by segment, beginning with the University of California and ending with the Community Colleges. The data is generally aggregated to avoid any inappropriate comparisons among campuses, as each campus has sought to make its remedial activities consistent with its own internal structure and the distinctive character and needs of its own student body. To illustrate the unique problems confronting campuses, however, and the different approaches they use to provide remedial programs, courses, and services, this portion of the report also incorporates data and observations from the site visits conducted by Commission staff.

Remediation in the three segments is not limited to teaching or courses. It extends from admission and orientation through graduation, beyond the curriculum into the co-curriculum or extracurriculum, and beyond the classroom into student services and activities throughout the campus. At many institutions, it begins with diagnostic testing or assessment, in order to advise students about their level of skills or to direct them into the proper sections of English, mathematics, and other courses. It involves bridge programs for incoming students as well as courses during the regular academic year, individual and group tutoring in basic skills, workshops on skills development, and special academic advising and counseling. The three sections of this part of the report describe each of the major facets of the remediation process in turn, before reporting on its evaluation and costs.

Except where otherwise noted, the data reported in the following sections refer to the 1980-81 academic year, and enrollment numbers reflect duplicated headcount enrollments at the first census.

("Duplicated" means that a student may be counted more than once.) Course figures do not include laboratories, workshops, discussion groups, or summer school. Extension and Continuing Education offerings (except in one instance), and Adult Schools are also omitted. Thus the number of courses, enrollments, and costs are but conservative estimates of the magnitude of remediation in the State's public colleges and universities.

# THE UNIVERSITY OF CALIFORNIA

## DIAGNOSTIC TESTING AND ASSESSMENT

Testing in English in the form of the famous Subject A examination has a long and honorable history at the University of California. The force of circumstances, however, has prompted the development of testing in other areas as well. During the 1981-82 academic year, all eight of the University's general campuses provided either voluntary or mandatory diagnostic testing or assessment services in reading, writing, mathematics, or English as a Second Language (ESL), conducted primarily by academic departments in English and mathematics.

Although writing competency testing is the primary testing area, with six of the eight campuses requiring the Subject A Examination, five of the eight campuses require diagnostic tests of some or all of their ESL students. Only one campus requires diagnostic testing in reading; five others provide such assessment on a voluntary basis generally to students admitted under special action for counseling or tutoring purposes. No data are available, however, to answer the survey's question regarding the reading grade levels of the students tested.

All University campuses use the diagnostic tests in pre-calculus and calculus developed by a University/State University Work Group for students planning to take mathematics courses. On three of the campuses, the tests are mandatory; on the remaining five, they are optional. Two of these latter campuses moved to mandatory testing in Fall 1982. In addition, three of the institutions within the system have also established graduation requirements in mathematics/quantitative reasoning in their Colleges of Letters and Science.

The one University campus with no previous mandatory testing in any subject area began a mandatory diagnostic testing program in writing, mathematics, and ESL for all entering freshmen and transfer students this past summer which will be fully implemented during 1983-84. This appears to be the only campus with an integrated testing program for all entering students rather than a segmented departmental approach.

## REMEDIAL INSTRUCTION IN READING AND WRITING

All eight general campuses of the University provide remedial courses in reading, writing, mathematics, or English as a Second

Language. Not every campus offers courses in every subject area, however, as the following description will show.

## Reading Courses

Half the campuses offered remedial work in reading in 1981-82, with one of the four having just begun efforts in that area. Only one campus used diagnostic testing to place its students in remedial reading courses, while three depended on referral by the students themselves. All four offer reading instruction on a non-credit basis in campus learning assistance centers, with full-time professional staff teaching 83.3 percent of all remedial reading sections. In general, the discipline of reading receives little specialized attention by the University, with most reading assistance rendered through campus writing programs.*

Students' reading problems run the gamut from those common to college students in general when faced with the amount and complexity of reading assigned by demanding professors to severe difficulties experienced by students who have never learned to read well. The staff of one site-visit campus acknowledged that they provide work in developmental reading skills at the ninth grade level or even lower, albeit for a limited number of students.

## Writing Courses

In contrast to the limited attention given to reading, all eight general campuses of the University provide remedial writing courses, although one campus intends to discontinue its remedial writing coursework during the forthcoming academic year. Most of these courses are offered for credit and predominantly for baccalaureate degree credit. The relative respectability of remedial writing in the University may be a consequence of historical precedent, but the attention paid to it today is also a response to deteriorating writing skills.

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*Despite this lack of special attention, a joint University/State University Work Group on Reading and Learning from Text is examining several questions regarding the extent to which students' ability to read and learn from text determines their college success or failure. Among its concerns are several that have far-reaching policy implications for both the schools and higher education. Why are some high schools better than others in preparing their students for college text reading? What strategies are they using to accomplish this purpose? And, is it essential for today's college students to be able to read and learn from text efficiently, or have faculty compensated for students' poor reading skills to a degree that students can succeed in college with limited reading skills? A conference to discuss these findings is proposed for the 1982-83 academic year.

Students entering the University can prove their writing competence in a number of ways:

- by scoring 600 or higher on the College Board English Composition Test;
- by achieving a score of 3 or higher on the College Board English Advanced Placement Test;
- by satisfactorily completing The California State University English Equivalency Examination;
- by earning a grade of at least a "C" at another undergraduate institution in a course equivalent to the University's course in freshman English; or
- by passing the University's Subject A Examination.

The Subject A requirement began as an entrance prerequisite in 1898 when all high schools had to certify the oral and written proficiencies of their students; those not certified were simply not admitted. Since 1907, however, the University has admitted students without the necessary proficiencies but has required them to meet proficiency standards after entrance by passing the examination or formal coursework.

On one large campus, approximately 73 percent of entering freshmen must take the Subject A examination, and 30 to 40 percent of these students are found deficient in their writing abilities and must enroll in the Subject A instructional program. Subject A enrollments at this campus have held relatively constant since the 1920s. On another large urban campus, between 40 and 60 percent of entering freshmen fail the proficiency examination and must be helped.

Of the new freshmen systemwide in 1979-80, 55.8 percent had to enroll in Subject A or equivalent courses (University of California, 1981), raising the question as to whether a course taken by the majority of students should be called remedial or instead the entry-level English course. One writing coordinator on a site-visit campus in fact describes Subject A as the equivalent to freshman composition at most other universities. He states, "there is no clear line between 'preparatory' and 'remedial' work in composition. Instruction at the Subject A level has been and always will be a necessary responsibility shared by the high schools and the University, and both segments of education in California have pretty much come to recognize this." Yet the staff on another campus worry, "if the definition of University-level work is revised [downward], the integrity of the B.A. degree would be threatened." These viewpoints are not mutually exclusive, but they indicate the ambiguities and dilemmas regarding preparation in writing and the educational and financial ramifications that await resolution.

Each campus has designed its writing program differently. One campus offers a course to prepare students for Subject A, while two other campuses do not sponsor any special Subject A courses at all. On one of these campuses, students who fail the Subject A exam take both a regular writing course and a writing workshop. At the other institution, all freshmen must enroll in a core foundations seminar taught by faculty in the humanities and in other disciplines. Those students who have not satisfied the Subject A requirement and who do least well on diagnostic tests are placed in writing intensive sections of the seminar, although not all low-scoring students can be accommodated. When tested again, those who fail must take an introductory composition course which satisfies the Subject A requirement.

A fourth campus has developed a particularly innovative comprehensive writing program beyond its lower-division courses, English A and English 1, which fall under the Commission's survey definitions as remedial. This writing program includes over 40 upper-division writing-intensive courses in departments ranging from history, political science, and art to engineering, astronomy, and chemistry, and at the graduate level in such professional schools as engineering and applied science. The campus is planning to expand the program into public health, architecture, business, law, dentistry, and medicine. The director of the program observes that the writing problem looms just as large at the graduate level as at the undergraduate: "If we are witnessing the failure of the educational sequence," he comments, "it has gone through the whole cycle." The program staff, now consisting of over 60 full- and part-time instructors plus another 40 teaching assistants, also work as "circuit riders" with teachers in more than 80 high schools in the area to share "what really works in teaching writing," and they contribute heavily as well to the campus' summer program for entering students with low SAT scores. To overcome problems early, during the spring before they enter, these students are invited to attend one of a series of conferences during which the program is explained and diagnostic tests in English composition and mathematics are given. That summer, the students then participate in an intensive six-and-a-half week session on campus for instruction, counseling, and a full dormitory schedule which includes tutorials, general information workshops, films, forums, and athletic and recreational activities. Roughly 400 students elect the English unit and between 200 and 300 the mathematics emphasis. (Because of the intensity of each, a student cannot take both units simultaneously.) The program now extends throughout the entire academic year.

From the program's inception in 1977 to 1981, all students, regardless of family income, received instruction free of charge, and low-income students received textbooks, supplies, and dormitory room and board at no cost as well. Increasing budgetary pressures threaten this non-fee status, however, and the campus is now seeking increased faculty involvement and outside financial support for its program.

Perhaps the most striking feature of this campus' siege against illiteracy is its use of technology. According to the writing program director, the labor-intensive nature of teaching writing can turn "a teacher's mind into oatmeal." Therefore, the staff has created a computer program to help revise students' papers. The computer analyzes the submissions for flaws, encourages the student to try new approaches, and when it is about to sign off, declares "Go thou and sin no more."

The effort described above is directed by a semi-autonomous unit under the purview of the English department. It is the English department, in fact, that directs the remedial writing programs on six of the University's eight general campuses, although ethnic studies departments and separate colleges also often provide remedial writing instruction. The seventh campus maintains a separate Subject A department, and the eighth sponsors a Campus Writing Program.

All types of instructors teach remedial writing, from full-time faculty who teach 39.5 percent of all remedial writing sections followed by teaching assistants (22.1%) and part-time faculty (15.8%) to peer tutors and other paraprofessionals (2.6%). Among full-time faculty, however, few ladder-rank faculty members appear to be involved. One campus, for instance, staffs its program entirely with adjunct lecturers and writing preceptors, all on a part-time basis and none with security of employment; another campus depends heavily on teaching assistants and teaching fellows; and another employs "associates" who fall between teaching assistants and lecturers and are funded from salary savings. Most instructors appear to be hired to teach writing exclusively rather than a combination of composition and literature courses. As one writing coordinator wryly put it, "the literature people don't touch it, though some feel kindly in their hearts."

## Course Offerings and Enrollments

Table 1 compares the number of courses, sections, and enrollments in remedial reading and writing to the number of all courses, sections, and enrollments in English from 1978-79 to 1980-81 for all eight general campuses of the University. The numbers in parentheses indicate the percentage of the remedial categories to the whole. As can be seen, over this three-year period, the number of English courses and of remedial reading and writing courses has decreased, while the number of course sections and enrollments in both categories has increased. At the same time, the percentage of remedial courses, sections, and enrollments as a proportion of all English courses, sections, and enrollments has decreased. This means that growth in English enrollments overall is occurring at a

*TABLE 1 Courses in English and in Remedial Reading and Writing, University of California, Academic Years 1978-79 Through 1980-81*

|  | 1978-79 (N = 8) | 1979-80 (N = 8) | 1980-81 (N = 8) |
|---|---|---|---|
| ALL ENGLISH COURSES |  |  |  |
| Courses | 740 | 705 | 714 |
| Sections | 2,466 | 2,608 | 2,912 |
| Enrollments | 61,704 | 66,803 | 73,788 |
| REMEDIAL COURSES IN READING AND WRITING |  |  |  |
| Courses | 71<br>( 9.6%) | 58<br>( 8.2%) | 62<br>( 8.7%) |
| Sections | 603<br>(24.5%) | 678<br>(26.0%) | 661<br>(22.7%) |
| Enrollments | 10,314<br>(16.7%) | 11,047<br>(16.5%) | 11,250<br>(15.3%) |

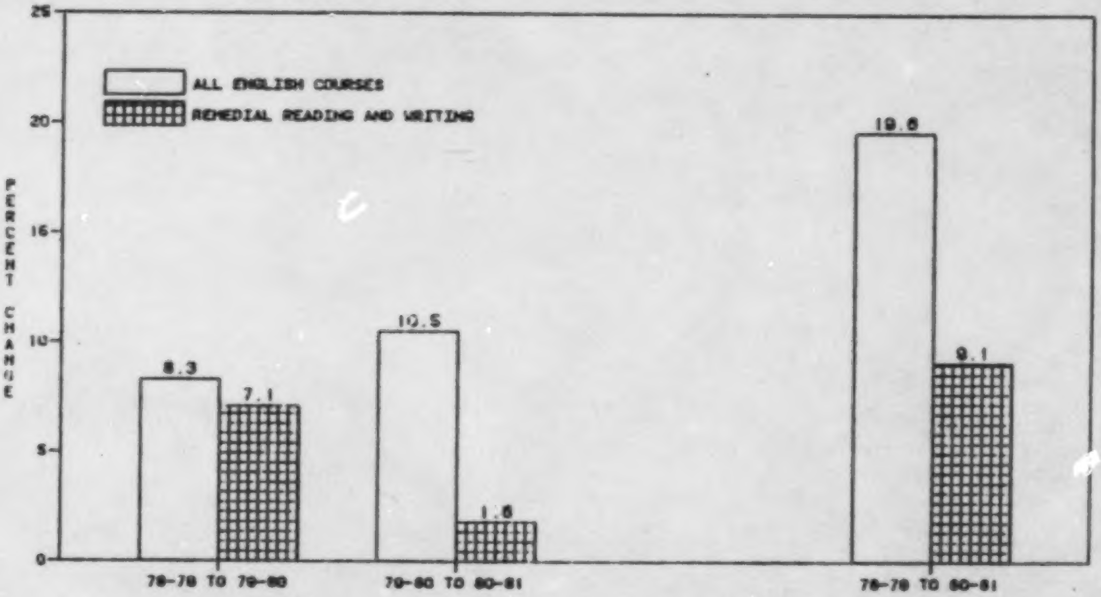
Note: One large urban campus used an unduplicated count of courses and sections, meaning that a course offered each quarter was counted only once for the year. Another campus included Learning and Study Skills Reading courses.

Source: California Postsecondary Education Commission Survey

faster rate than in remedial reading and writing, as Figure 1 illustrates, and that while the number of new courses has declined, the number of sections has increased in order to accommodate growing enrollments.

On the average, the University offers more sections per remedial reading and writing course than sections for all English courses, and the average headcount in the remedial course sections is fewer than in all English sections, as Tables 2 and 3 indicate. The Uni-

*FIGURE 1 Percent Increase in Enrollments in All English Courses and in Remedial Reading and Writing Courses, University of California, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

*TABLE 2 Average Number of Sections per English Course and Remedial Reading or Writing Course, University of California, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All English Courses | 3.3 | 3.7 | 4.1 |
| Remedial Reading or Writing Courses | 8.5 | 11.7 | 10.7 |

Source: California Postsecondary Education Commission Survey

*TABLE 3 Average Enrollment in English and Remedial Reading or Writing Courses and Sections, University of California, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All English Courses | 83.4 | 94.8 | 103.3 |
| Remedial Courses | 145.3 | 190.5 | 181.5 |
| | | | |
| All English Sections | 25.0 | 25.6 | 25.3 |
| Remedial Sections | 17.1 | 16.3 | 17.0 |

Source: California Postsecondary Education Commission Survey

versity thus provides classes that are both smaller and more individualized for students in need of remedial instruction in reading and writing than for students in English courses overall.

## REMEDIAL INSTRUCTION IN MATHEMATICS

Perhaps the most difficult area of remediation for the University to accommodate has been mathematics. According to the National Conference Board of the Mathematical Sciences (Mathematics Association of America, 1982, p. 1), the number of students enrolled nationally in remedial mathematics courses in four-year colleges and universities rose by 70 percent from 1975 to 1980, while total mathematical science course enrollments increased by 33 percent, in calculus by 30 percent, and in computing and related courses by 196 percent. Today, remedial enrollments constitute 16 percent of all mathematical science registrations nationally.

Four factors are likely responsible for this implosion (Maxwell, 1979, pp. 328-329). During the 1960s, many universities and colleges made calculus, which had traditionally been considered a sophomore-level course, into the first general mathematics course for college freshmen. At the same time, these same universities and colleges recruited many students who lacked college preparatory mathematics training and also lowered admissions standards and eased prerequisites. Yet, a larger proportion of students discovered that they had to take mathematics and statistics courses in order to major in many academic disciplines, and the burgeoning of computer technology suddenly made it a prerequisite to many professions as well.

## Mathematics Courses

The situation at the University of California reflects the national picture. Six of its eight general campuses have provided remedial mathematics instruction for some years; a seventh--one of the smaller campuses--began such instruction for credit during Summer 1981.

Although campus mathematics departments are responsible for nearly 100 percent of all remedial mathematics course sections, remedial mathematics courses and the faculty who teach them do not appear to be fully integrated with the regular mathematics program. One campus, for example, offers the same remedial mathematics courses through two administrative structures: by permanent staff members in the learning skills center who provide such instruction for special student populations and by temporary staff, frequently high school teachers, who are hired through the mathematics department. Another large urban campus is planning to have its remedial mathematics coursework taught in a cooperative arrangement with a local community college in University facilities. The faculty member responsible for instituting remedial coursework on this campus over ten years ago is now the principal proponent for having remediation provided by the community college. He cites continuing departmental resistance as the reason for the change. Such transfer or sharing of responsibility may appear more frequently in the future. On campus after campus, faculty members say that they expect to teach at the college level, not below.

Over four-fifths of the remedial mathematics courses are taught for credit, either at the baccalaureate level (60.5%) or for student workload credit (39.5%). Fifty percent of these sections are taught by full-time faculty; 19.0 percent are offered by teaching assistants; and 16.7 percent are led by part-time professional staff. (The definitions used by different campuses affect these percentages, as one campus may classify an individual as "part-time professional staff" whereas another would categorize the same individual as a teaching assistant. In addition, the elimination of laboratory sections and discussion groups may skew the figures to reflect a disproportionately large involvement of full-time faculty.)

## Course Offerings and Enrollments

Table 4 shows the number of remedial mathematics courses, sections, and enrollments from 1978-79 through 1980-81 as a subset of total

*TABLE 4 Courses in Mathematics and in Remedial Mathematics, University of California, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N = 8) | 1979-80 (N = 8) | 1980-81 (N = 8) |
|---|---|---|---|
| ALL MATHEMATICS COURSES | | | |
| Courses | 673 | 678 | 715 |
| Sections | 2,133 | 2,362 | 2,301 |
| Enrollments | 78,285 | 84,566 | 93,064 |
| REMEDIAL COURSES IN MATHEMATICS | (N = 6) | (N = 6) | (N = 6) |
| Courses | 30<br>(4.5%) | 31<br>(4.6%) | 32<br>(4.5%) |
| Sections | 168<br>(7.9%) | 181<br>(7.7%) | 198<br>(8.6%) |
| Enrollments | 6,690<br>(8.6%) | 7,490<br>(8.9%) | 8,239<br>(8.9%) |

Note: One urban campus used an unduplicated count of courses and sections and also included figures from all precalculus courses, not just those defined as remedial by the Commission's survey. Thus, figures presented here may be somewhat inflated.

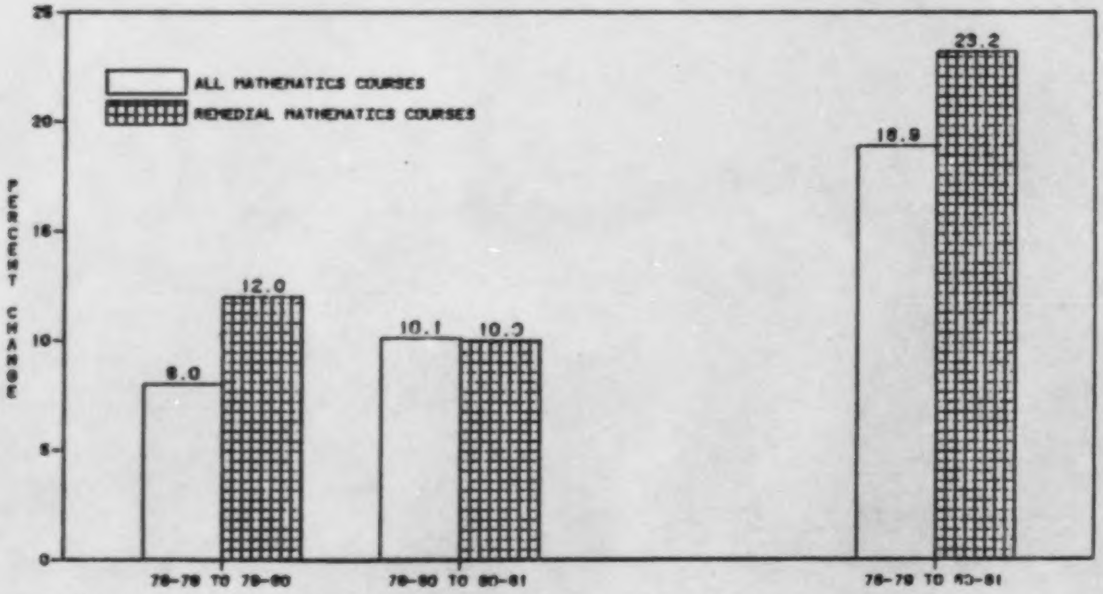
Source: California Postsecondary Education Commission Survey

mathematics instruction. The parenthetical figures refer to the percentage of remedial courses, sections, and enrollments to the whole. As Table 4 shows, the ratio of remedial mathematics courses to all mathematics courses has shown no change over the three years. Both sections and enrollments in remedial mathematics, however, have increased slightly in their relation to all mathematics courses. Increases can also be seen across all three years in all courses, sections, and enrollments and in remedial courses, sections, and enrollments. Figure 2 graphically displays this current surge of interest in mathematics in overall terms and in the need for remediation by students.

Faculty on at least two campuses are not sanguine that the third year of mathematics recently added to the University's entrance requirements will materially affect the need for remediation. As one experienced faculty member succinctly puts it, "if they can sleep through two years, they can sleep through three."

Already, a very high proportion of students entering the University have had three years of high school mathematics, including two-thirds of the students in a remedial mathematics course on one major campus. These students obviously did not learn in high

*FIGURE 2 Percent Increase in Enrollments in All Mathematics Courses and in Remedial Mathematics Courses, University of California, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

school what the University expected them to learn; but the Academic Senates' recently adopted statement on mathematics competence should help future students in this regard, as it spells out the specific skills expected of entering college freshmen. Furthermore, as more students enter the University without a hiatus in their mathematics instruction, as the new entrance requirements encourage, it is reasonable to expect that fewer students will require coursework at the remedial level.

Unlike the data for English course sections and enrollments presented in Tables 2 and 3 above, the average number of sections per remedial mathematics course approximates the number for all mathematics courses (Table 5), and enrollment in each remedial mathematics section is greater than that found in the average section of all mathematics courses (Table 6). Although the class sizes for remedial mathematics instruction are significantly larger than those for remedial English, they are nonetheless smaller than most lower division mathematics courses.

*TABLE 5 Average Number of Sections per Mathematics Course and Remedial Mathematics Course, University of California, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All Mathematics Courses | 3.2 | 3.5 | 3.2 |
| Remedial Mathematics Courses | 5.0 | 5.0 | 4.8 |

Source: California Postsecondary Education Commission Survey

*TABLE 6 Average Enrollment in Mathematics and Remedial Mathematics Courses and Sections, University of California, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All Mathematics Courses | 116.3 | 124.7 | 130.2 |
| Remedial Courses | 223.0 | 241.6 | 257.5 |
| | | | |
| All Mathematics Sections | 36.7 | 35.8 | 40.1 |
| Remedial Sections | 39.8 | 41.4 | 41.6 |

Source: California Postsecondary Education Commission Survey

## INSTRUCTION IN ENGLISH AS A SECOND LANGUAGE*

English as a Second Language (ESL) courses and services are utilized not only by immigrants, refugees, and the foreign-born, but also by native-born American students who speak a non-standard dialect of English. One major research campus of the University has found that permanent residents who have resided in the United States on the average of four years now comprise about two-thirds of the students in its ESL program, having replaced foreign students as the majority. The failure rate in its ESL courses jumped dramatically during 1979-80 from 15 percent to 28 percent and remained almost as high for 1980-81. This campus, deeply concerned about the problem, has closely examined its students' needs for ESL instruction, but the topic deserves further study for all campuses and all three segments.

Both University administrators and respondents to the Commission survey on two University campuses noted that they do not consider ESL remedial, a viewpoint that is widely held across all segments. One campus coordinator urged a distinction between the varying levels of ESL offered on that campus as some are extremely basic and others equivalent to Subject A.

### ESL Courses

Seven of the University's eight general campuses offered ESL courses during the 1981-82 year, compared to six the previous year and five the year before that. They offered these courses primarily at the lower division level, although they offered more of them at the upper division level than in reading, writing, or mathematics. Students are placed in these courses primarily through diagnostic testing, although one campus depends on student self-referral and another on the students' educational records. One campus that plans a new program of diagnostic testing expects that the number of its students that it identifies as needing ESL course work will increase when the assessment program begins operation.

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*As noted in Appendix A, English as a Second Language courses and services did not originally fall under the purview of the Commission's remediation survey, but several members of the Technical Advisory Committee suggested that it be included because of the increasing numbers of students needing such assistance in California colleges and universities.

Perhaps the greatest distinction between ESL and remedial course work in English and mathematics lies in the fact that ESL has no clear-cut administrative home. Although English departments house nearly 43 percent of the University's ESL sections, two of the seven campuses have separate ESL departments, a third offers ESL course work in its School of Humanities, and a fourth in its Learning Assistance Center. Thirty-nine percent of the sections are offered by staff rather than faculty, yet nearly 86 percent of all ESL courses are offered for baccalaureate degree credit. (More specific information regarding the policies, testing procedures, and programs for ESL students at the University is contained in pp. 49-57 of the University's report on underprepared students, 1981.)

## Course Offerings and Enrollments

Table 7 shows that the number of ESL courses and sections offered by the University surged approximately 70 percent from 1978-79 to 1980-81 and that enrollments bounded 62.1 percent during the same time. Even if the percentages were calculated on the base number of five campuses offering ESL in 1978-79, they would still show a substantial albeit a more modest increase.

Using these raw totals, each course consists on the average of 3.8 sections. Average enrollments are displayed in Table 8, which indicates similar enrollments to those shown earlier in Table 3 for remedial reading and writing courses and sections.

*TABLE 7 Courses in English as a Second Language (ESL) University of California, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N = 5) | 1979-80 (N = 6) | 1980-81 (N = 7) |
|---|---|---|---|
| Courses | 21 | 36 | 36<br>(+71.4%) |
| Sections | 80 | 116 | 136<br>(+70.0%) |
| Enrollments | 1,500 | 2,033 | 2,431<br>(+62.1%) |

Source: California Postsecondary Education Commission Survey

*TABLE 8 Average Enrollment in Courses and Sections of English as a Second Language (ESL), University of California, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| Courses | 71.4 | 56.5 | 67.5 |
| Sections | 18.8 | 17.5 | 17.9 |

Source: California Postsecondary Education Commission Survey

## SPECIAL PROGRAMS AND REMEDIAL SUPPORT SERVICES

In the last decade, the University has admitted many non-traditional students and has concurrently established special programs to address these students' academic, social, and personal needs. All eight campuses offer assistance in the form of Educational Opportunity, Student Affirmative Action, and Summer Bridge programs, each of which contains a remedial component through which special groups of students receive assistance in the basic skills areas.

In addition to these special programs, all eight campuses provide many support services designed to assist all students in their academic development. A growing proportion of these services are devoted to remedial purposes, although it is difficult to determine the extent of the remedial element because the same service may be used both by students in need of regular academic counsel and by those requiring remedial assistance. These support services include individual tutoring and workshops in the basic skills areas, study skills workshops, special academic advising, and special counseling, most of which are offered either by special programs or learning assistance centers.

Learning assistance centers evolved during the 1970s and currently operate on seven of the eight campuses under a number of titles ranging from "Student Learning Center" and "Academic Resources Coordination" to "Office of Academic Support and Instructional Services" (OASIS). Although such centers originally sprang from campus counseling centers in order to serve special-admission students, today they are independent entities whose purpose is the development of academic skills for all students. In an effort to meet the needs of all students, the staff of these centers offer non-credit and occasionally credit courses; workshops on topics as diverse as basic skills, study skills, listening skills, time management, note-taking, and test-taking; small group and one-on-one tutoring; media-assisted instruction; and special summer programs Indeed, these centers appear to be the focal point for remedial support services on most of the University's campuses.

## EVALUATION OF REMEDIATION

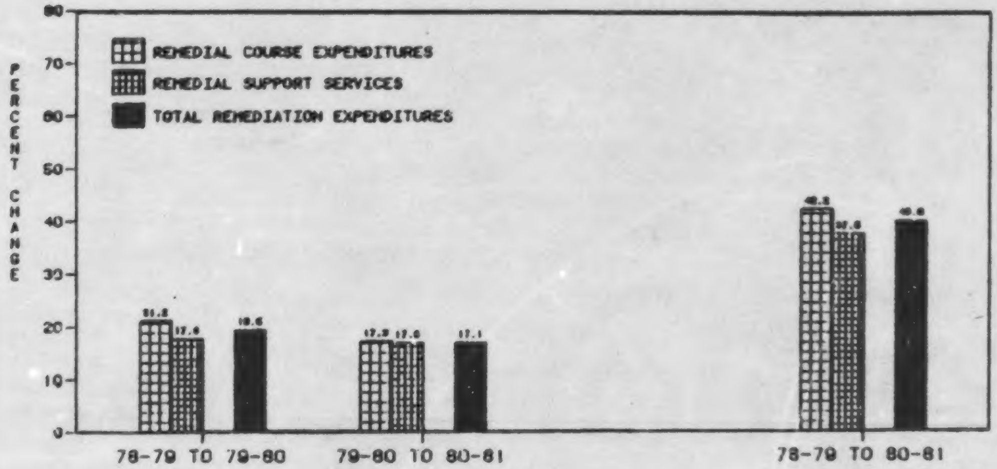
All campuses report a positive effect of their remedial efforts, but when asked if they follow the degree progress of students who have taken remedial courses, four of the campus respondents to the Commission survey replied negatively, with two of the other four who responded affirmatively noting that follow-up is confined only to students in certain programs. Staff on two small campuses indicate that plans are being made to follow more carefully the progress of students in remedial courses.

Similarly, the University appears to have no standard approach for evaluating its remediation activities. Evaluation ranges from tallies of program utilization to sophisticated long-range research on grades and persistence.

## COSTS

During the 1980-81 academic year, the University of California spent an estimated $6.6 million on remedial courses and support services for its students. As Figure 3 indicates, this amount represents a 17.1 percent increase over 1979-80 and a 40 percent increase over 1978-79. These amounts have accounted for approximately 0.4 percent of the University's total institutional budget over the three years.

*FIGURE 3 Percent Increase in Expenditures for Remedial Activities, University of California, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

A breakdown of the percent change over time by subject area appears in Figure 4. The large percentage increase in ESL expenditures reflects growth in campus offerings as well as in the number of campuses providing ESL instruction.

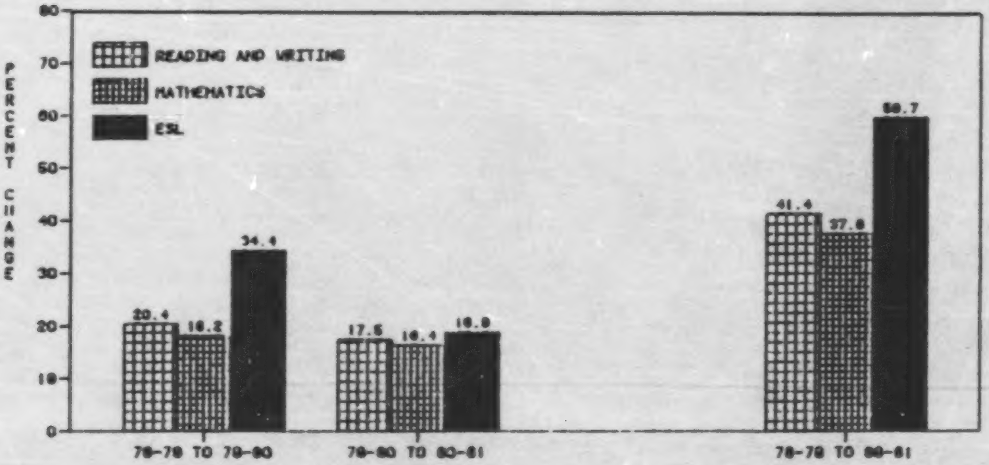
## Distribution of Costs

Actual dollar figures point to the preeminence of remedial English instruction and the importance of remedial support services, the latter accounting for 46.4 percent of total remediation expenditures in 1980-81. Table 9 outlines the costs by discipline area over the three years; the percentages in parentheses refer to the percent of all remediation costs represented by that dollar amount. Figure 5 graphically displays the same information.

Reading and writing are shown as one item because of the difficulty many campuses had in breaking out separate costs for reading. One campus, for example, funds reading under its support services; others subsume reading under their writing programs.

Respondents to the Commission's survey on several campuses indicated that their campus figures are estimates rather than actual costs because the survey asked them to report their expenditures in a way quite different from their ordinary cost-accounting format. Despite this difficulty and the varying methodologies used by the campuses to compute their costs, Commission staff believes that the amounts in Table 9 and Figure 5 represent a reasonably accurate portrayal of University expenditures for remediation.

*FIGURE 4 Percent Increase in Expenditures for Remedial Courses, University of California, Academic Years 1978-79 Through 1980-81*



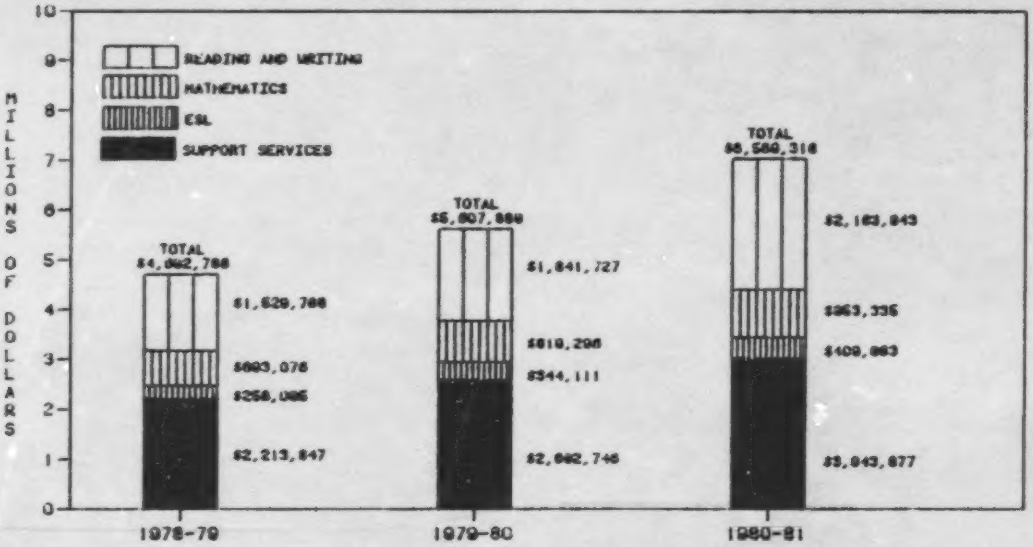
Source: California Postsecondary Education Commission Survey

TABLE 9 *Remediation Expenditures, University of California, Academic Years 1978-79 Through 1980-81*

| | 1978-79<br>(N = 8) | 1979-80<br>(N = 8) | 1980-81<br>(N = 8) |
|---|---|---|---|
| REMEDIAL COURSES | | | |
| Reading and Writing | $1,529,768<br>(32.6%) | $1,841,727<br>(32.8%) | $2,163,043<br>(32.9%) |
| Mathematics | 693,076<br>(14.8%) | 819,296<br>(14.6%) | 953,335<br>(14.5%) |
| English as a Second Language | 256,095<br>( 5.5%) | 344,111<br>( 6.1%) | 409,063<br>( 6.2%) |
| Subtotal for Courses | 2,478,939<br>(52.9%) | 3,005,134<br>(53.5%) | 3,525,441<br>(53.6%) |
| REMEDIAL SUPPORT SERVICES | $2,213,847<br>(47.1%) | $2,602,746<br>(46.5%) | $3,043,877<br>(46.4%) |
| TOTAL REMEDIATION EXPENDITURES | $4,692,786 | $5,607,880 | $6,569,318 |

Source: California Postsecondary Education Commission Survey

FIGURE 5 *Expenditures for Each Remedial Activity as a Component of Total Remediation Expenditures, University of California, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

## Sources of Funds

Table 10 illustrates the sources of funding for remedial expenditures during 1980-81, both in estimated dollar amounts and in percentages of total remediation costs.

Of the $6.6 million total, nearly $4 million came from the State and another $1.9 million from the registration fees or education fees paid by students. The State pays for over 94 percent of the costs for remedial courses, while student fees account for nearly 60 percent of the expenditures for remedial support services. The class fees noted as Direct Assessments refer to fees charged by one campus for all their remedial mathematics courses and to fees imposed by several other campuses for English as a Second Language testing.

*TABLE 10 Funding Sources for Remediation Expenditures, University of California, Academic Year 1980-81*

| Funding Sources | Remedial Courses | Remedial Support Services | Total |
|---|---|---|---|
| Federal | $ 0<br>( 0.0%) | $ 347,395<br>( 5.3%) | $ 347,395<br>( 5.3%) |
| State | 3,326,082<br>(50.6%) | 576,257<br>( 8.8%) | 3,902,339<br>( 59.4%) |
| Special/Institutional | 103,058<br>( 1.6%) | 217,490<br>( 3.3%) | 320,548<br>( 4.9%) |
| Student Fees | 73,145<br>( 1.1%) | 1,816,568<br>(27.6%) | 1,889,713<br>( 28.7%) |
| Direct Assessment (Class Fees) | 13,986<br>( 0.2%) | 82,667<br>( 1.3%) | 96,653<br>( 1.5%) |
| Grants | 0<br>( 0.0%) | 3,500<br>( 0.1%) | 3,500<br>( 0.1%) |
| Other | 9,170<br>( 0.1%) | 0<br>( 0.0%) | 9,170<br>( 0.1%) |
| TOTAL | $3,525,441<br>(53.6%) | $3,043,877<br>(46.4%) | $6,569,318<br>(100.0%) |

Source: California Postsecondary Education Commission Survey

## SUMMARY

- The University of California with its Subject A Examination in English has the longest tradition of diagnostic testing of any segment of higher education in California.
- It appears that the University is also moving toward mandatory diagnostic testing in mathematics.
- Work in remedial reading, when provided, is offered on a non-credit basis in the learning assistance center.
- English enrollments overall are increasing at a faster rate than enrollments in remedial reading and writing courses, which are increasing very slowly.
- Enrollments in all mathematics courses are increasing dramatically, and enrollments in remedial mathematics courses are increasing at the same rate.
- Enrollments in English as a Second Language are increasing rapidly, and some evidence exists of a shift in the clientele from foreign students to permanent residents.
- Over three-fifths of the remedial courses in writing and mathematics that are offered for credit grant baccalaureate-degree credit.
- Full-time faculty and teaching assistants are involved heavily in remedial instruction. Site visit information indicates, however, that many of these full-time faculty are not ladder-rank.
- Learning assistance centers originated to serve the needs of special student populations but have broadened their scope to include all students. These centers are the focal point for most remedial support services on most University campuses.
- Serious efforts at evaluating the effectiveness of remediation, except as it affects certain small student populations, have been wanting. Some campuses have recently begun more detailed evaluation studies.
- The cost of remediation for the University of California in 1980-81 was $6.6 million, with 59 percent of this amount provided by the State primarily for courses and another 29 percent from student fees primarily for support services.

# THE CALIFORNIA STATE UNIVERSITY

## DIAGNOSTIC TESTING AND ASSESSMENT

### Writing Tests

The California State University has implemented three systemwide mechanisms by which to assess its students' writing capabilities--the English Placement Test (EPT), the English Equivalency Examination (EEE), and an English graduation requirement. Table 11 lists the groups of students eligible for, or required to take, these tests and information about costs and test administration. Appendix C contains complete details on the graduation requirement by campus.

All 19 of the campuses require all lower division students with low scores on the English Equivalency Examination or College Board or ACT tests to take the English Placement Test. Before the English Placement Test was instituted in 1977, students "sank or swam," according to the English faculty on one campus. Now the test and the associated basic skills instruction provide a safety net. Cut-off scores have been established, and students are placed in a class level appropriate to their skills. Although falling in the same general range, these cut-off scores differ from campus to campus, as do the organizational framework, titles, and course numbers of the classes. For example, on one campus, students testing below a score of 145 enter English 001, a basic skills writing course; those who fall between 145 and 150 can enroll in English 100--the freshman composition course--but must supplement their coursework with practice in a writing laboratory in the campus learning assistance center; and those scoring above 150 enroll in English 100 directly. On the other hand, another campus places students scoring at 141 and below in a non-degree credit class involving a required writing laboratory coordinated by the English department; those with scores between 142 and 151 may enroll in English 1A--the regular freshman composition course--but are also required to do remedial work in the same laboratory; and students scoring at 152 and above enter English 1A.

In the opinion of one English professor, the students who score lowest on the English Placement Test are generally incoherent native speakers, coherent non-native speakers, and incoherent non-native speakers. Most problems occur with this third group.

*TABLE 11 English Testing, California State University, 1981*

| | English Placement Test | English Equivalency Examination | Graduation Requirement |
|---|---|---|---|
| Open To | Admitted CSU lower division students | Anyone | CSU enrolled upper division or graduate students |
| Who Must Take | All lower division students (with fewer than 56 transferable semester units) with some exceptions* | Not required. It is available to those who wish to attempt credit by examination | All degree candidates |
| Cost to Student | None | $37 | Varies: See Apendix C |
| Test Dates | Late October<br>Mid-May<br>Late July | Late April or Early May | Check with campus |
| Test Location | Any CSU campus | Any CSU campus | Campus of enrollment |
| Application Forms | Mailed to those eligible and required to take test | Mailed to CSU applicants and to high schools, libraries, etc. | Apply on campus |
| Results Sent | To candidate's home and to campus of intended enrollment | To candidate's home and to all CSU and UC campuses | Check with campus |
| Further Information | Office of Admissions, any CSU campus | English Test Center Department of English, California State College, San Bernardino, CA 92407 | Campus English Department |

*Students who present one of the following are not required to take the EPT:

Satisfactory scores on the CSU English Equivalency Examinaton.
Scores of 3, 4, or 5 on the English Composition Examination of the College Board Advanced Placement Program.
A score of 600 or above on the College Board Achievement Test in English Composition with Essay.
A score of 510 or above on the verbal section of the College Board Scholastic Aptitude Test (SAT-Verbal).
A score of 23 or above on the ACT English Usage Test.

Source: California State University Board of Trustees Committee on Educational Policy, Agenda Item, April 22, 1981.

On this particular faculty member's campus, nearly 80 percent of the students taking the test fail it.

## Reading Tests

Although the English Placement Test evaluates reading skills as well as writing abilities, only 12 of the 19 campuses (63.2%) describe their reading assessment as mandatory. Most campuses apparently view the test as an assessment tool for writing alone.

Data on the reading levels of students is difficult to obtain. The reading subscore on the English Placement Test does not convert to grade levels, and the 11 campuses that reported the grade levels of their students tested in reading in 1980-81 probably used other tests. Furthermore, they tested a limited number of their students. One campus, for example, based its response to the Commission's survey question on a randomly selected sample from all freshman English classes. Another took its numbers from those tested voluntarily. Still others tested only Educational Opportunity Program and Special Services students. Thus data such as the following must be read with caution. Of the approximately 390 students tested on the average on any one campus, 10 percent read below the sixth-grade level; nearly one-fourth fell in the sixth to ninth-grade range; and approximately 30 percent scored at the tenth- and eleventh-grade level. The remaining third were reading at the twelfth-grade level or above. These figures represent averages for the system as a whole, of course, and wide variation exists among campuses due to the diversity of tests used and the groups of students tested.

## Mathematics Tests

According to survey data for 1981-82, nine of the 19 campuses provide mandatory testing in mathematics and seven of the 19 offer it on a voluntary basis. These tests are not required of all first-time freshmen as is the English Placement Test, but are given instead only to those students who wish to take specific mathematics courses. (Two of the campuses fall in both the mandatory and voluntary categories, as they apparently require testing for some classes and provide it on an optional basis for others.)

According to the Secretariat for the University of California/California State University Mathematics/Science Diagnostic Tests, one-third of the students in both systems are thought to register for mathematics courses at the wrong level, either for courses too advanced for their preparation or too low (Mattison, 1982). Thus, diagnostic tests are seen as advisory both to faculty and to students for proper placement in mathematics courses and may be predictive regarding success or failure in a specific course. Several State University campuses use the Diagnostic Tests in precalculus and calculus devised by the University/State University work group, while others have developed their own tests. Only six of the 19 campuses, however, use tests as their primary means of placing students in remedial mathematics courses. Six others depend on the student's educational record, and four more rely on student self-referral.

A wide range of views regarding testing exists among State University mathematics faculty. At one department that has recently introduced locally designed tests in elementary and intermediate algebra for anyone signing up for such courses, the chair comments that the department might eventually institute a campus-wide placement test for all students. At the opposite extreme, on a campus that uses no testing or placement process except an "intuitive" one and identifies no mathematics course as remedial, the mathematics chair states regarding students in obvious need of remedial assistance, "We give them a map to the local Community College." Perhaps coincidentally, this department reports an extremely high withdrawal rate from its beginning mathematics courses.

Despite these divergent views of testing, agreement has been reached by the mathematics chairs across the system on required mathematics competencies, and an instrument with which to measure such competencies has been developed and pilot tested. Called ELM (Entry Level Mathematics) Examination, this criterion-referenced test in arithmetic, elementary algebra, and plane geometry will be administered in Spring 1983 to all students entering the State University system the following fall. A fee will be charged students for this assessment, and some chairs express concern about the additional resources needed to institute the necessary remedial classes to meet the needs uncovered by the test.

## English as a Second Language (ESL) Tests

Twelve campuses indicate that they provide mandatory tests for their ESL students, while three give voluntary tests. Testing, then, is the predominant method used to place students in ESL courses, although student self-referral is used by four campuses. Although not specified by the survey data, it is presumed that most, if not all, ESL students must also take the English Placement Test.

ESL tests range from the Test of English as a Foreign Language (TOEFL) of the Educational Testing Service to locally devised assessments for course placement. The specific test used for ESL students appears to be related to the kinds of students enrolling and to the organization of the program to assist them. One campus that has experienced a tremendous influx of international students is serving 2,900 refugees and permanent residents through a program administered by the English department. These students, although not required to take the TOEFL for admission, must take the English Placement Test as well as a locally designed test for placement into the department's series of ESL courses, the most advanced of which parallels the basic skills writing course offered by the English department. Because they cannot be otherwise accommodated, 800 additional visa students are taught on a fee-charge basis through Extended Education. These latter students are required to take the TOEFL as well as the English Placement Test and the local assessment test. Because all these categories of students are fully admitted to the State University, they must therefore also eventually take the graduation proficiency test in English, given on this particular campus in lieu of a course. To avoid the problems of international students artfully avoiding any measure of their English proficiency and approaching graduation with their language requirements unmet, this campus is encouraging its School of Engineering to monitor its own ESL students and not allow them to enroll in necessary upper division courses until their English proficiency has been tested and certified.

## REMEDIAL INSTRUCTION IN READING AND WRITING

During 1981-82, all 19 campuses of the State University provided remedial course work in reading, writing, mathematics, or English as a Second Language, and most of them supported programs in all four subject areas. Any semblance of similarity ends there, however, for the State University's programs serving underprepared students are as diverse as the students themselves.

### Reading Courses

Sixteen campuses offer courses in remedial reading at the lower division level: eight of these campuses operate these courses from academic departments such as education, psychology, and study skills; six utilize campus learning assistance centers; and two coordinate their courses through campus writing programs. As indicated by 1980-81 data, the teaching load is distributed fairly evenly among full-time faculty who teach 23 percent of the remedial course sections in reading, part-time faculty who assume 30 percent of the load, and full-time professional staff with 27 percent. Nearly three-quarters of the courses are given credit, and of these, half are awarded baccalaureate-degree credit and half student workload credit. All sorts of combinations can appear, however. On one campus, reading is offered in the learning assistance center by faculty for degree credit.

In addition to these campus offerings, the State University system is involved with the University of California in a Joint Work Group on Reading and Learning from Text mentioned in a footnote in the reading section of the earlier University of California part of this report. Although this work group does not focus on remedial reading, but rather has a broader charge, its work does carry importance for all activities in the discipline and thus is mentioned here.

## Writing Courses

Systemwide data indicate that 50 percent of the State University's students who have taken the English Placement Test since its inception in 1977 have scored at 150 points or below, thus indicating a need for remedial assistance before entering a freshman composition course. As one English department chair remarks, "We get high school students who have not written a word for six years."

Accordingly, remedial writing courses now exist on all 19 campuses, with the nineteenth having implemented a non-degree credit remedial writing course this past fall. (Heretofore, this campus sponsored special sections of a regular English course for those students scoring below 150 on the EPT.) All of these courses are at the lower division level, although two campuses consider remedial writing and reading courses as pre-lower division work.

During the 1980-81 academic year, English departments administered over four-fifths of these writing courses, with the remainder dispersed among study skills and ethnic studies departments, learning assistance centers, and Educational Opportunity Programs. There are both advantages and disadvantages to other departments than English teaching remedial writing. One distinct advantage is that faculty throughout the campus may themselves take responsibility to resolve the "student writing problem." For example, the long-term goal of one energetic English professor on one campus is to coordinate all regular upper division writing courses through a team-teaching format involving other departments besides English--a format already in operation in several departments including physics where faculty members teach jointly with the English faculty. Conversely, English faculty on two other campuses comment that because entry-level basic writing courses are so poorly coordinated with those offered in other departments, consistent standards and teaching are difficult to achieve and to maintain.

Sixty percent of the 1980-81 remedial writing course sections systemwide were taught by part-time faculty, and 20 percent by full-time faculty, and another 20 percent by teaching assistants, full-time and part-time staff, peer tutors, and other paraprofessionals. Campus variation was great, of course. On one campus, 85 percent of these sections were taught by peer tutors or other paraprofessionals. On another, graduate teaching assistants staff the program, with the chair of the English department coordinating their efforts and with required laboratory work done by tutors who range from teaching assistants to undergraduates with high academic standing in English.

In 1980-81, 83 percent of the remedial writing courses carried credit, and nearly two-thirds of these credit-bearing courses granted baccalaureate-degree credit. Since 1980-81, however, the campuses that chose to offer degree credit for these courses have been moving them to student workload credit, in line with Executive Order 338 (General Education/Breadth Requirements) of the Chancellor's Office, which stipulated that as of Fall 1982 baccalaureate credit would not be granted for courses in entry-level learning skills. One obviously relieved department chair characterizes these changes as "finally being realistic."

## Course Offerings and Enrollments

Table 12 shows the number of courses, sections, and enrollments from 1978-79 to 1980-81 in all English courses (including remedial reading and writing) as well as in remedial reading and writing courses alone. The percentages in parentheses indicate the proportion of the remedial categories to the whole; Figure 6 displays these percentages for all three years. As can be seen, remedial reading and writing courses, sections, and enrollments have been increasing as a percentage of all courses, sections, and enrollments in English.

From 1978-79 to 1980-81, the number of all English courses declined 1.1 percent from 1,955 to 1,933, while the number of remedial reading and writing courses increased by 28 percent from 64 to 82. Sections of remedial reading and writing skyrocketed 61 percent, compared to only 9 percent for all English sections. And remedial enrollments rose 49 percent, compared to only 6 percent for all English enrollments. Figure 7 illustrates this difference in enrollment growth.

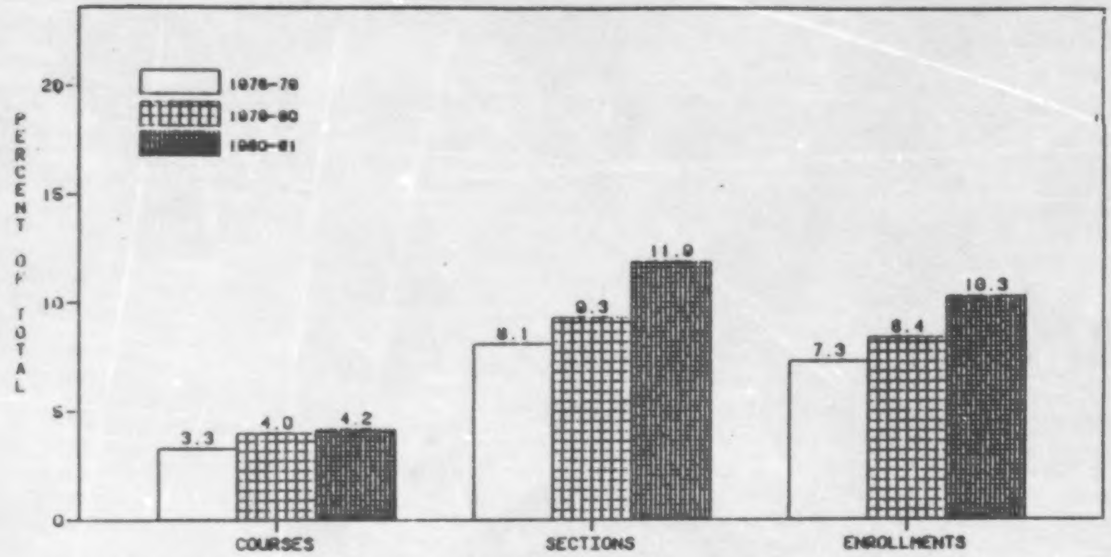
On the average, the State University offers more sections per remedial course than per English course, and each remedial section enrolls 9 percent fewer students than the average English section, as Tables 13 and 14 on page 60 show.

TABLE 12 *Courses in English and in Remedial Reading and Writing, California State University, 1978-79 Through 1980-81*

| | 1978-79 (N = 19) | 1979-80 (N = 19) | 1980-81 (N = 19) |
|---|---|---|---|
| ALL ENGLISH COURSES | | | |
| Courses | 1,955 | 1,941 | 1,933 |
| Sections | 5,890 | 5,903 | 6,412 |
| Enrollments | 121,920 | 125,855 | 129,468 |
| REMEDIAL READING AND WRITING COURSES | | | |
| | (N = 17) | (N = 18) | (N = 18) |
| Courses | 64<br>(3.27%) | 77<br>(3.97%) | 82<br>(4.24%) |
| Sections | 475<br>(8.06%) | 549<br>(9.30%) | 764<br>(11.92%) |
| Enrollments | 8,897<br>(7.30%) | 10,539<br>(8.37%) | 13,266<br>(10.25%) |

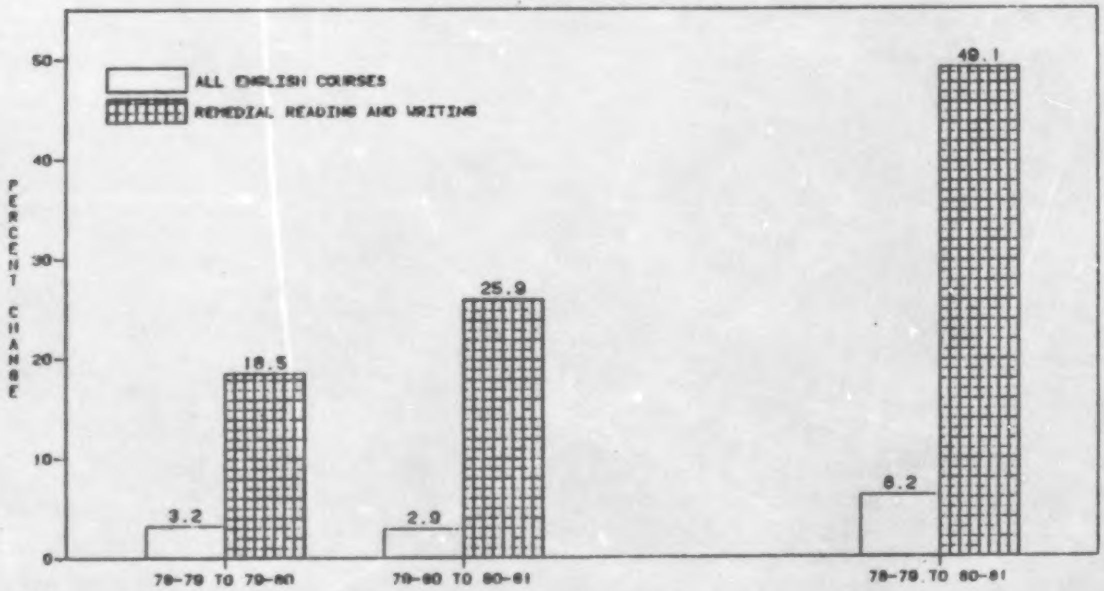
Source: California Postsecondary Education Commission Survey

*FIGURE 6 Remedial Reading and Writing as a Percentage of All English Courses, Sections, and Enrollments, California State University, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

*FIGURE 7 Percent Increase in Enrollments in All English Courses Compared to Remedial Reading and Writing Courses, California State University, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

*TABLE 13 Average Number of Sections Per English Course and Remedial Reading or Writing Course, California State University, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All English Courses | 3.01 | 3.04 | 3.32 |
| Remedial Reading or Writing Courses | 7.42 | 7.13 | 9.32 |

Source: California Postsecondary Education Commission Survey

*TABLE 14 Average Enrollment in English and Remedial Reading or Writing Courses and Sections, California State University, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All English Courses | 62.4 | 64.8 | 67.0 |
| Remedial Courses | 139.0 | 136.9 | 161.8 |
| All English Sections | 20.7 | 21.2 | 20.2 |
| Remedial Sections | 18.7 | 19.2 | 17.4 |

Source: California Postsecondary Education Commission Survey

## REMEDIAL INSTRUCTION IN MATHEMATICS

Preliminary results from the State University's new Entry-Level Mathematics Test suggest that 40 percent of the students entering the system do not have the mathematics ability to succeed in first-year college mathematics courses. On one campus, the mathematics faculty estimates that more than half of their entering students are incompetent at the level of ninth-grade algebra. Whatever the facts about the level of student skill, the number of students requiring mathematics remediation is clearly on the rise.

## Mathematics Courses

In 1981-82, 17 of the 19 State University campuses provided remedial mathematics instruction, which the Commission survey defined as courses in arithmetic, elementary algebra, intermediate algebra, plane geometry, and other like content. The site visits disclosed basic agreement with this definition of remedial courses in mathematics, although one campus chair believes that anything commonly taught in high school is remedial in college and thus might even classify trigonometry as remedial, while another contends that intermediate algebra has been a standard course on campus for the past 10 to 15 years and might be remedial for science and mathematics majors but certainly not for non-science majors. Indeed, one of the two mathematics departments that do not identify any courses as remedial begins its curriculum with intermediate algebra. Systemwide administrators also advise that, historically, the State University has never considered intermediate algebra as remedial.

The site visits indicated that campus offerings in arithmetic are rare, with only one of the four campuses visited offering such a course for a limited number of students, and the other three recommending that students in need of basic computation instruction attend their local Community College instead. In addition, the visits also disclosed general reluctance on the part of many mathematics faculty members to teach remedial courses themselves. Although mathematics departments administer 99 percent of all remedial mathematics course sections, 57 percent of these sections are taught by part-time faculty and only 38 percent by full-time faculty. In 1980-81, students received credit in 95 percent of the courses, and among these credit courses, 81 percent awarded baccalaureate-degree credit and 19 percent gave student-workload credit. As is true with English, however, campuses have been transferring remedial courses in mathematics from baccalaureate-degree credit to workload or non-degree credit, in response to Executive Order 338. A special State University Task Force for Entry Level Mathematics Skills, which has already determined a systemwide minimum level of competence to be tested, has recommended delaying implementation of that portion of Executive Order 338 which deals with entry-level skills in mathematics from Fall 1982 until Fall 1983, when the new mathematics testing requirement for the system goes into effect.

## Course Offerings and Enrollments

Table 15 displays the number of all mathematics courses, sections, and duplicated headcount enrollments compared to remedial courses, sections, and enrollments and indicates the percentage that remedial efforts constitute of the total. As can be seen, the ratio of remedial mathematics courses, sections, and enrollments to all mathematics courses, sections, and enrollments has not changed appreciably in the last three years. The major change seems to be in the number, and possibly type, of remedial mathematics courses offered, up from 72 in 1978-79 to 84 in 1980-81. In other words, increasing enrollments in remedial mathematics have generally paralleled increasing enrollments in all mathematics courses, although Figure 8 shows that remedial enrollments increased more rapidily than mathematics enrollments in general between 1979-80 and 1980-81.

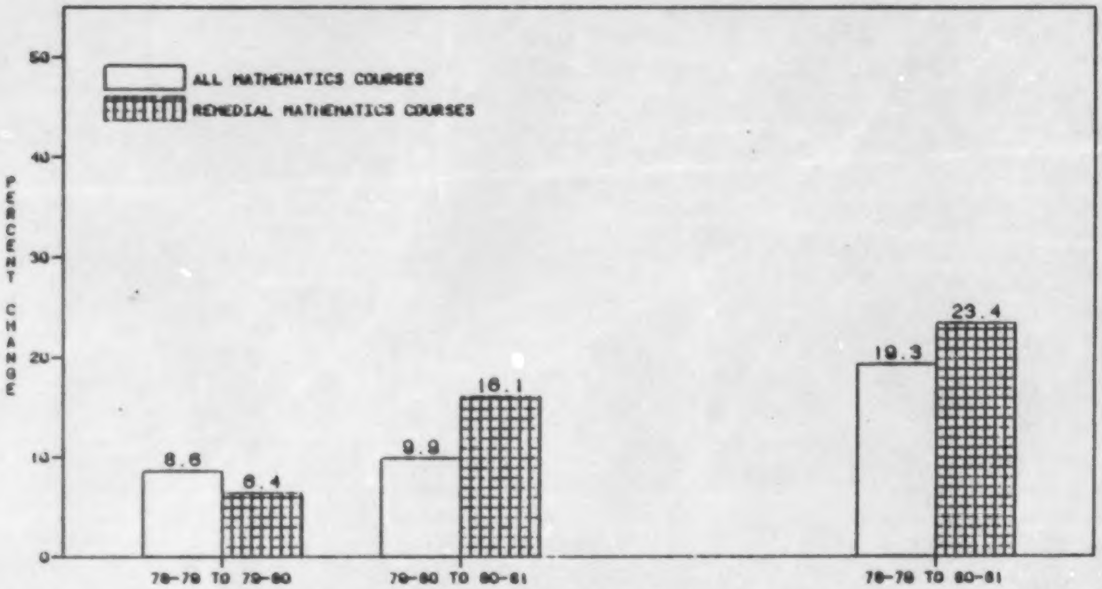
The data on sections per course in Table 16 show that the number of remedial course sections is two-thirds greater than the number of sections for all mathematics courses. In addition, these data indicate that the number of sections per remedial course is declining somewhat, while the number of sections per course in all mathematics is increasing slightly. Thus, while more remedial courses are being added, the number of other mathematics courses is relatively stable, with student interest being accommodated by adding more sections of existing courses.

*TABLE 15 Courses in Mathematics and in Remedial Mathematics, California State University, Academic Years 1978-79 Through 1980-81*

| | 1978-79<br>(N = 19) | 1979-80<br>(N = 19) | 1980-81<br>(N = 19) |
|---|---|---|---|
| ALL MATHEMATICS COURSES | | | |
| Courses | 1,300 | 1,292 | 1,300 |
| Sections | 4,292 | 4,474 | 4,793 |
| Enrollments | 106,197 | 115,287 | 126,686 |
| REMEDIAL COURSES IN MATHEMATICS | | | |
| | (N = 17) | (N = 17) | (N = 17) |
| Courses | 72<br>( 5.5%) | 76<br>( 5.9%) | 84<br>( 6.5%) |
| Sections | 464<br>(10.8%) | 465<br>(10.4%) | 512<br>(10.7%) |
| Enrollments | 14,834<br>(14.0%) | 15,790<br>(13.7%) | 18,327<br>(14.5%) |

Source: California Postsecondary Education Commission Survey

*FIGURE 8* *Percent Increase in Enrollments in All Mathematics Courses and in Remedial Mathematics Courses, California State University, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

*TABLE 16* *Average Number of Sections per Mathematics Course and Remedial Mathematics Course, California State University, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All Mathematics Courses | 3.3 | 3.5 | 3.7 |
| Remedial Mathematics Courses | 6.4 | 6.1 | 6.1 |

Source: California Postsecondary Education Commission Survey

As shown in Table 17, average headcount for all courses and sections, remedial and non-remedial alike, has increased. The average number of students per remedial course and course section, however, is significantly greater than the average in all mathematics courses and course sections.

*TABLE 17 Average Enrollment in Mathematics and Remedial Mathematics Courses and Sections, California State University, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All Mathematics Courses | 81.7 | 89.2 | 97.5 |
| Remedial Courses | 204.6 | 206.7 | 216.4 |
| All Mathematics Sections | 24.7 | 25.8 | 26.4 |
| Remedial Sections | 32.0 | 34.1 | 35.7 |

Source: California Postsecondary Education Commission Survey

## INSTRUCTION IN ENGLISH AS A SECOND LANGUAGE

All 19 campuses of the State University offer instruction in English as a Second Language (ESL), but the subject occupies an ill-defined and therefore uncomfortable position in the system.

## ESL Courses

On 18 campuses, ESL courses are offered totally at the lower division level; the remaining campus, however, offers one-third of its courses at the upper divison level. Twelve of the campuses provide ESL course sections through their English departments, while the other seven offer them through foreign language, linguistics, or study skills departments; learning assistance centers; or Continuing or Extended Education divisions. Of the three campuses that offer ESL courses through Continuing or Extended Education, one provides ESL courses solely through Continuing Education; the second, with a 10 percent international student population, uses Extended Education for visa students and the English department for refugee and resident students; and the third offers ESL by Continuing Education only during the summer. All three charge a fee for ESL whenever Continuing or Extended Education is used.

An interesting turnabout may occur on the first two of these campuses, however. The first one, which currently houses ESL in Continuing Education, is trying to institutionalize all or part of the program in the regular curriculum, and the second, which sponsors ESL programs for international students both within the English curriculum and in Extended Education, is exploring the possibility of either creating a separate institute to offer all ESL and other basic skills instruction on a fee basis or else having adult education or the local Community College teach these courses on the University campus.

According to survey data for 1980-81, 45 percent of ESL sections are taught by full-time faculty, 40 percent by part-time faculty, and the remaining 15 percent by teaching assistants, full-time staff, or paraprofessionals. Although most campuses thus depend primarily on full-time or part-time faculty, there are exceptions. One campus, for example, uses teaching assistants to offer all its ESL sections, and another uses teaching assistants for 50 percent of them.

Eighty-nine percent of the ESL courses carry credit. Only two campuses report that their ESL course work falls in the non-credit category. Of those courses which carried credit in 1980-81, 87 percent were offered for baccalaureate degree credit. Prompted no doubt by Executive Order 338, however, most campuses have already moved their courses from baccalaureate to workload credit or are doing so. A systemwide decision regarding the remedial or entry-level nature of ESL course work may be necessary, however, as may additional assistance for those campuses impacted by increasing numbers of international students. Policy on both the financial and pedagogical aspects of the problem appears inadequate at the moment.

## Course Offerings and Enrollments

Since 1978-79, the number of campuses offering ESL courses has increased from 12 to 18 and duplicated headcount enrollments have increased 86.8 percent, as shown in Table 18. Despite the fact that enrollment per course has shot up dramatically, Table 19 shows that overall the State University has been able to keep ESL section size small and even reduce it slightly over the past three years. Nonetheless, the demand for ESL courses appears to be exploding and requires thoughtful yet immediate decision making.

*TABLE 18 Courses in English as a Second Language (ESL), California State University, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N = 12) | 1979-80 (N = 15) | 1980-81 (N = 18) |
|---|---|---|---|
| Courses | 44 | 51 | 54<br>(+22.7%) |
| Sections | 148 | 205 | 314<br>(+112.2%) |
| Enrollments | 3,421 | 4,474 | 6,390<br>(+86.8%) |

Source: California Postsecondary Education Commission Survey

*TABLE 19 Average Enrollment in Courses and Sections of English as a Second Language (ESL), California State University, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| Courses | 77.8 | 87.7 | 118.3 |
| Sections | 23.1 | 21.8 | 20.4 |

Source: California Postsecondary Education Commission Survey

## SPECIAL PROGRAMS AND REMEDIAL SUPPORT SERVICES

The historical development of special programs and remedial support services in the State University closely parallels that within the University of California. During the late 1960s, campuses enrolled many non-traditional students and in the early 1970s created special support structures for them. Although many of the support services gradually expanded and adapted to meet the needs of the entire campus community, most special programs are still limited to specific populations of students.

All 19 campuses support special programs that contain remedial components, including Educational Opportunity Programs on all campuses; Core Student Affirmative Action on six: and Special Services for Disadvantaged Students--a federally funded program--on five. Other common programs serve veterans, women, older adults, student athletes, and students with disabilities. In addition, certain campuses sponsor special programs such as PASS ("Progress and Advancement through Special Services") and ASPIRE ("Academic Support Program to Increase Retention in Education") for designated populations of students in need of concentrated academic assistance.

Remedial support services for all students also abound. All campuses currently provide diagnostic testing, tutoring in basic skills, special counseling, and special academic advising, and all but one operate learning laboratories and offer workshops in basic skills and study skills. In addition, five others make available various specialized types of assistance beyond those mentioned, including computer-assisted instruction, test anxiety counseling, and academic improvement groups.

On more than two-thirds of the campuses that indicated on the survey that one unit, rather than several, was primarily responsible for providing remedial support services, all services save one tend to be clustered either in the learning skills center or in special programs. The one exception is diagnostic testing, which on over 40 percent of the campuses is operated by the campus testing office. On a number of campuses, however, several units provide the same support service for different groups of students. As one administrator admits, "Our campus is atomized and a lot of duplication occurs."

Learning assistance centers appear to be in varying stages of development. One site-visit campus is presently consolidating its many support services in a new Learning Assistance Resource Center, despite reservations about the merits of this approach among some faculty and staff. Another center opened last spring, while a third is so well-established that it has served as a model for many other centers across the country. The most successful centers seem to be those which serve all students and offer services ranging from remedial assistance to preparation for professional school examinations. One director describes his flourishing center as both a "shopping center" and a "gymnasium for the mind" and points out that it is both comprehensive and cost-effective.

A continuing trend worth watching is the introduction of the PLATO system of computer-assisted instruction, eventually destined for all 19 campuses. This sophisticated system will be implemented not only for basic skills assistance but for other subject areas as well.

## EVALUATION OF REMEDIATION

Thirteen of the 19 campuses follow the progress toward degree of at least some of their students who have taken remedial courses. For the most part, however, the progress of only those students enrolled in special programs is monitored, and even for this subgroup the evaluations are rarely complete or continuous.

Similarly, adequate evaluation models, systematically employed for remedial courses and services, are not obvious in the State University system. Although three-quarters of the campuses indicate that they evaluate their remedial courses and services and 95 percent appraise their special programs, this analysis relies primarily on student, staff, and faculty evaluations, done on an intermittent basis, rather than on any long-range, carefully controlled methodology. Some respondents to the Commission survey, in fact, commented that evaluative research is not carefully controlled on their campuses and that they cannot therefore be entirely confident of its results, which generally show a positive effect of remediation.

## COSTS

The increasing need for remedial courses and services documented in earlier sections of this report has resulted in rapidly escalating costs for The California State University. During the 1980-81 academic year, the system spent an estimated $9.3 million on remedial courses and support services, a 97 percent increase from 1978-79. For a number of reasons already cited, this amount may be an underestimate of the real costs and need for remediation.

## Distribution of Costs

Table 20 shows total campus expenditures for remedial courses and services. Reading and writing are combined as one item because of the difficulty many campuses had in breaking out separate costs for each discipline. This amount across all three years is further swollen by the allocations made by the State for campus administration of the English Placement Test and for the remedial course work indicated by results of the test. The figures in parentheses reflect the percentage of total remedial costs represented by each dollar amount. Figure 9 graphically displays the same information.

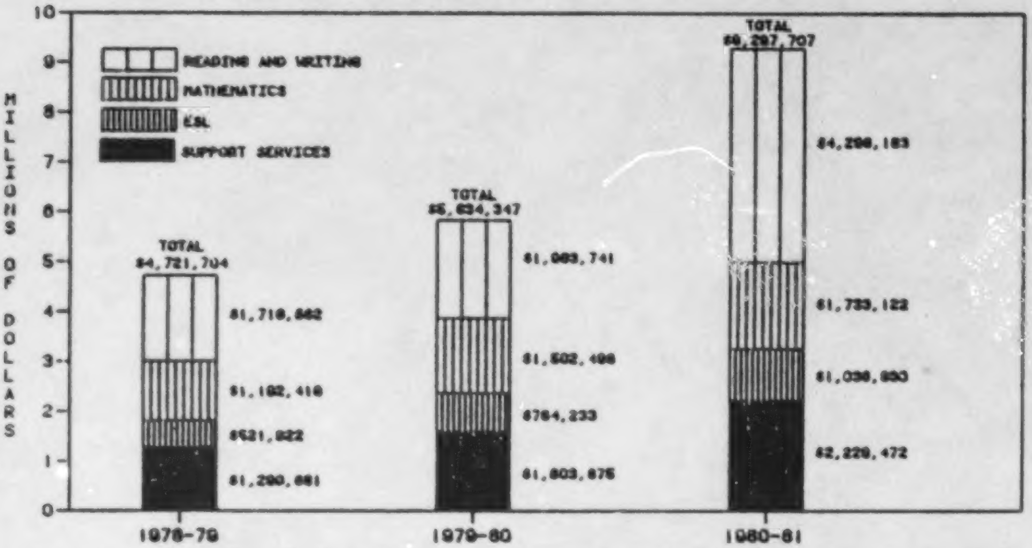
As Figure 10 indicates, the $9.3 million for 1980-81 represents a 59.4 percent increase over 1979-80 and a 96.9 percent increase from 1978-79. This jump may be explained by several factors including

*TABLE 20 Remediation Expenditures, California State University, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N = 19) | 1979-80 (N = 19) | 1980-81 (N = 19) |
|---|---|---|---|
| REMEDIAL COURSES | | | |
| Reading and Writing | $1,716,682<br>(36.4%) | $1,963,741<br>(33.6%) | $4,298,183<br>(46.2%) |
| Mathematics | 1,192,419<br>(25.3%) | 1,502,498<br>(25.8%) | 1,733,122<br>(18.6%) |
| English as a Second Language | 521,922<br>(11.0%) | 764,233<br>(13.1%) | 1,036,930<br>(11.2%) |
| Subtotal | 3,431,023<br>(72.7%) | 4,230,472<br>(72.5%) | 7,068,235<br>(76.0%) |
| REMEDIAL SUPPORT SERVICES | $1,290,681<br>(27.3%) | $1,603,875<br>(27.5%) | $2,229,472<br>(24.0%) |
| TOTAL REMEDIATION EXPENDITURES | $4,721,704 | $5,834,347 | $9,297,707 |

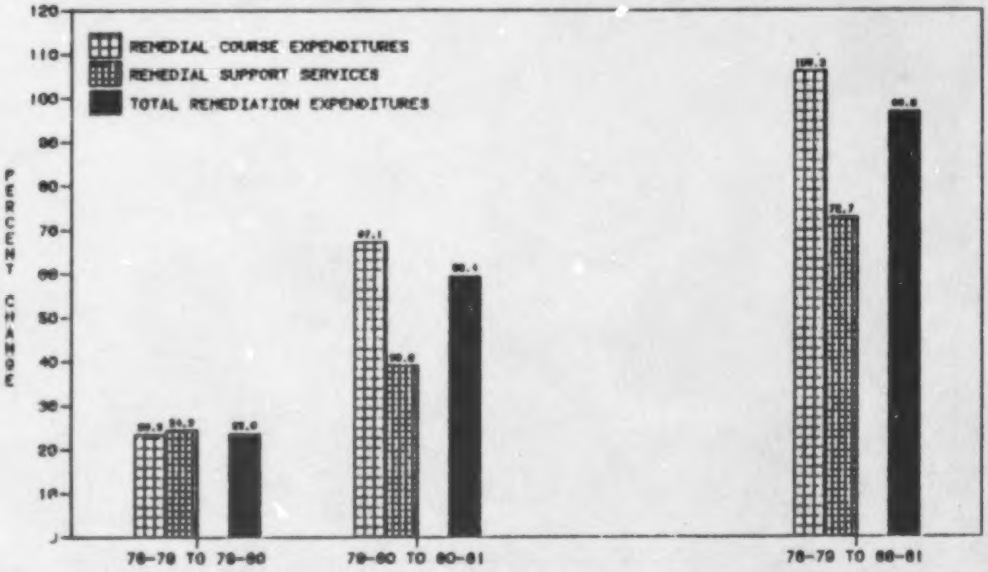
Source: California Postsecondary Education Commission Survey

FIGURE 9 *Expenditures for Each Remedial Activity as a Component of Total Remediation Expenditures, California State University, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

FIGURE 10 *Percent Increase in Expenditures for Remedial Activities, California State University, Academic Years 1978-79 Through 1980-81*

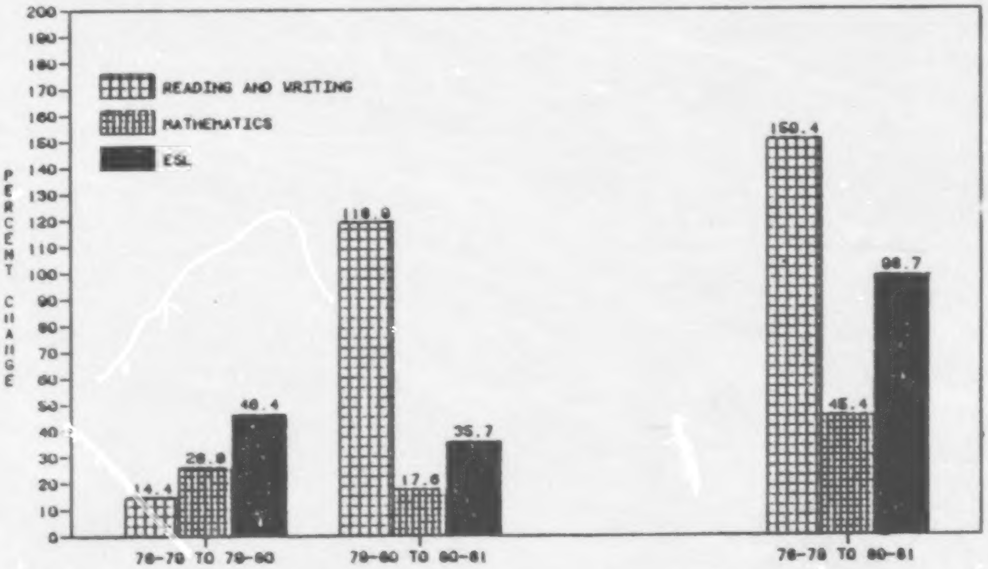


Source: California Postsecondary Education Commission Survey

student enrollment growth, inflationary factors, and a major increase in funding for the English Placement Examination in 1980-81, as well as by the increasing need for remediation. A breakdown of the percent change in expenditures by subject area appears in Figure 11.

The proportion that these costs represent of the total institutional budget has changed over the three years under consideration and bears examination in Table 21 on page 72. The most striking features of these data are the doubling of that fraction of the institutional budget devoted to reading and writing between 1979-80 and 1980-81 and to the almost 60 percent increase in ESL instruction between 1978-79 and 1980-81.

*FIGURE 11 Percent Increase in Expenditures for Remedial Courses, California State University, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

*TABLE 21 Costs of Remediation as a Percentage of Total Institutional Budget, California State University, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| REMEDIAL COURSES | | | |
| Reading and Writing | 0.24% | 0.24% | 0.47% |
| Mathematics | 0.17 | 0.19 | 0.19 |
| English as a Second Language | 0.07 | 0.09 | 0.11 |
| Subtotal for Courses | 0.48 | 0.52 | 0.77 |
| REMEDIAL SUPPORT SERVICES | 0.18 | 0.20 | 0.24 |
| TOTAL REMEDIATION EXPENDITURES | 0.66% | 0.72% | 1.01% |

Source: California Postsecondary Education Commission Survey

## Sources of Funds

The sources of the funds used for remediation in 1980-81 are shown in Table 22, both in estimated dollar amounts and in percentage of total remediation costs. As can be seen, five dollars out of every six spent on remediation in the State University originates with the State. Half of the rest is provided by the federal government, with virtually all federal money funneled into support services.

*TABLE 22 Funding Sources for Remediation Expenditures, California State University, Academic Year 1980-81*

| Funding Source | Remedial Courses | Remedial Support Services | Total |
|---|---|---|---|
| Federal | $ 36,987<br>( 0.4%) | $ 700,276<br>( 7.5%) | $ 737,263<br>( 7.9%) |
| State | 6,413,712<br>(69.0%) | 1,324,087<br>(14.2%) | 7,737,799<br>(83.2%) |
| Special/Institutional | 280,825<br>( 3.0%) | 46,000<br>( 0.5%) | 326,825<br>( 3.5%) |
| Student Fees | 0<br>( 0.0%) | 157,259<br>( 1.7%) | 157,259<br>( 1.7%) |
| Direct Assessment (Class Fees) | 336,711<br>( 3.6%) | 0<br>( 0.0%) | 336,711<br>( 3.6%) |
| Grants | 0 | 0 | 0 |
| Other | 0<br>(0.0) | 1,850<br>( 0.0%) | 1,850<br>( 0.0%) |
| Total | $7,068,235<br>(76.0%) | $2,229,472<br>(24.0%) | $9,297,707<br>(100.0%) |

Source: California Postsecondary Education Commission Survey

## SUMMARY

- The California State University uses three systemwide tests to assess students' writing abilities.
- Testing in English is mandatory for all entering students, while testing in mathematics is mandatory only on some campuses and only for students who wish to enter certain courses. As of Spring 1983, all students entering the State University the following fall will be required to take an Entry Level Mathematics Examination.

- Sixteen campuses offer courses in remedial reading. Nearly three-quarters of these courses are given credit, and of these, half are awarded baccalaureate-degree credit.

- The number of students in remedial reading and writing courses is growing faster than all English enrollments, and the number of students in English as a Second Language courses is exploding.

- Enrollment data indicate that the increasing number of students in remedial mathematics appears to be an artifact of the increasing demand for all mathematics courses.

- Prompted by Executive Order 338, all campuses are moving remedial coursework from baccalaureate degree credit to student workload or non-degree credit.

- Except in ESL, more part-time faculty teach remedial courses than any other category of instructor.

- All campuses provide a variety of remedial support services, primarily through learning assistance centers or special programs.

- Evaluation of remedial courses and programs is generally weak throughout the system.

- The cost of remediation in 1980-81 was $9.3 million, with 83 percent of that amount provided by State funding sources.

# THE CALIFORNIA COMMUNITY COLLEGES

## DIAGNOSTIC TESTING AND ASSESSMENT

Among the 101 Community Colleges that responded to the Commission's survey, the majority provide mandatory diagnostic testing in writing (59.4%) and voluntary testing in reading (56.4%) and in mathematics (55.4%). Less unanimity exists in the area of English as a Second Language, where 44 percent of the colleges offer mandatory testing and 30 percent provide voluntary assessment.

Of those colleges that rank one placement method as the predominant mode, 68 of 91 use diagnostic testing to place students in remedial writing classes, and 53 of 90 depend on such testing to place their students in remedial reading. In mathematics and ESL, however, student self-referral is used almost as frequently as tests. Most site-visit colleges require all students planning to enroll in an English course to take a placement test in writing and then require an essay during the first week of class to allow another criterion for placement. But according to one instructor, limited time and large numbers prevent the movement of all but a small percentage of students into levels of courses most appropriate to their skills.

Diagnostic testing and assessment of students' basic skills deficiencies in the Community Colleges ranges from nonexistent at one college to a sophisticated testing system in mathematics, reading, and writing at another which gives students information not only about their test scores but also about entry-level classes for which they are eligible and ineligible. These are the extremes, with 99 permutations (literally) between the two. The 1979 report of the Community Colleges' Basic Skills Advisory Committee observed that "colleges are not consistent in their approach to the initial assessment and advising of the student . . ." (Chancellor's Advisory Committee, p. 11). Great diversity exists as well in the testing instruments used, the populations tested, and the reasons for testing, be it for diagnosis, course placement, course entry, prerequisite fulfillment, or graduation proficiency. As faculty note at one urban college which has turned to campus-wide assessment, "There was a proliferation of departmental use of assessment instruments on [our] campus with an attendant lack of budgetary control, lack of uniform testing standards, and a dearth of supervision. All of these factors emphasized a need for change." A campus-wide testing program, or perhaps even a system-wide plan, may be attractive for such practical reasons alone.

One reason for this diversity in testing is the fact that the Community Colleges are the only segment of California public higher education without a systemwide mechanism for diagnostic testing in any subject area. This lack of uniformity stems primarily from the organizational structure of the system. Historically, the California Community Colleges have operated under the principle of local autonomy, and this principle makes a comprehensive approach to any situation very difficult to achieve. Where some elements like curriculum approval and grading are comparable across the system, other matters are decided locally. In fact, the term "system" may really be a misnomer, for the Community Colleges are less a whole than the sum of their parts.

The conflicting pressures between systemwide and local goals constantly confronting the Community Colleges is no better illustrated than by an Academic Senate position voiced at the Senate's annual spring session in April 1981, during discussion of the Intersegmental Committee's draft competency statement:

> WHEREAS, individual community colleges have widely differing testing procedures and testing schedules, and
>
> WHEREAS, the same English tests may not be appropriate at all community colleges,
>
> THEREFORE BE IT RESOLVED that the CCC, CSUC, UC Intersegmental Committee's March 1981 draft proposal, Section B entitled "Determination of Student Proficiencies in English and Definition of Remedial Coursework in English," paragraph 2, sentence 2, which reads:
>
> > This evaluation shall take the form of a segmentwide examination or an examination that meets the statewide standards previously set forth in this document.
>
> be amended to read as follows:
>
> > This evaluation shall take the form of a written examination that the English faculty of each community college agrees meets the standards previously set forth in this document.

For the Community Colleges, locally generated standards take precedence over a systemwide, universal model.

At every college visited by Commission staff, the question of systemwide testing arose. An English chair spoke frankly of an examination for the Community Colleges comparable to the English Placement Examination of the State University:

> It would not be a good idea. There are too many different colleges and too many different clienteles. Some Community Colleges are prep schools for four-year colleges and some serve a high proportion of non-English-speaking or limited-English-speaking students. A universal test could not possibly describe our situation.

This same English department has its own assessment instrument, a 90-minute objective multiple-choice test including a holistically scored writing sample which has thus far been used to test 12,000 students. The test is not given to those students at the lowest level of competence, however, except on a voluntary basis. And this same campus is currently discussing a comprehensive testing program for all its entering students, as is another campus whose Developmental Skills Committee (also known as the "Miami-Dade" Committee) has proposed that all its students, full-time and part-time, be tested, using either a reasoning or a basic skills test.

Concerns have been raised that no test is a perfect predictor of performance and that learning is far more complex than can be determined by test scores. But on campus after campus, faculty members faced with increasing numbers of underprepared students are having to examine their past assumptions and create better methods of diagnosis, placement, and performance assessment. It is in this latter area--establishing exit standards which must be met prior to graduation--where the least work appears to have been done, yet the logistics and expense of a comprehensive testing program in any of these forms remain unresolved for almost all colleges.

## Reading Tests

In response to the Commission's survey question regarding the percentage of their students tested at certain grade levels in reading during 1980-81, a number of colleges reported difficulties in answering, even though they give such a test. Some test only those students who are referred or refer themselves because of reading problems. Several colleges indicated that their tests provide raw scores and percentiles rather than grade-level equivalents. Others reported that they did not employ adequate record keeping or simply that such statistics were unavailable. One such campus noted that although specific data are not available, "It is believed the majority of students are in grades six to nine." Still other colleges began such testing this last academic year.

A total of 60 colleges attempted to answer the question, however. A few changed the grade-level categories; other colleges gave percentages but not the number of students tested. In addition, enormous variation occurred in the numbers of students tested from campus to campus. With all these caveats in mind, it appears that among those students tested, nearly half are reading at only the elementary or junior high school level.

Of the approximately 1,264 students tested on the average on any one campus, 15 percent read below the sixth-grade level; nearly 33 percent fall in the sixth- to ninth-grade range; approximately 25 percent score at the tenth- and eleventh-grade levels, and the remaining 27 percent are reading at the twelfth-grade level or above. Even with the cautions noted earlier, these data give some indication of the reading problems faced by Community College faculty. A study focusing on reading may thus be warranted.

## REMEDIAL INSTRUCTION IN READING AND WRITING

All California Community Colleges provided remedial course work in reading, writing, and mathematics during 1981-82, and 92 percent offered courses in English as a Second Language. Although the Commission study examines only these four basic skills, 37 percent of the colleges indicated that they provided remedial work in other areas as well, including study skills, speech communication, vocabulary development, spelling, speech therapy, business administration, and learning disabilities. (Several special studies have examined the role of the Community Colleges and the other segments in providing services to the learning disabled, and so the Commission's remediation survey covers courses and services for the learning disabled only if these students are being prepared for regular college coursework, rather than being served for developmental purposes alone.)

### Reading Courses

According to the 1979 basic skills report of the Community Colleges, courses in reading for students between the seventh- and eleventh-grade reading levels are offered by 98 percent of California's Community Colleges, and 96 percent of the colleges offer reading courses for students scoring under the seventh-grade level. The faculty of one college visited by Commission staff indicated that one of their reading courses is designed for illiterate or semi-literate students. Although not many of its students are at this primary level, enrollment is significantly larger in the next course, where students are reading at the fourth- and fifth-grade levels. Says a reading instructor at this college, "Many students have told me that they have come through high school without reading a book."

At an inner-city Community College, the average high school graduate entering its doors possesses reading skills at the fifth to sixth grade level. "We're getting kids with first- and second-grade reading abilities, though," observes one instructor, "and our materials are at the fourth- to sixth-grade level. We really can't handle them." This campus uses a computer system to help its students acquire basic skill competence and has found that student reading skills can jump five academic years in one semester with technological intervention.

Several colleges have instituted departments with titles like "Developmental Communications," where students with minimal reading and writing skills can begin. One of these departments has been in existence for 18 years and gives associate-degree credit for its courses as electives.

On the 97 campuses responding to the question in the Commission survey regarding administration of reading courses, over two-thirds of remedial reading sections are offered by English departments. Learning assistance centers offer another 18 percent, and such diverse academic departments as psychology, Mexican-American studies, special education, business, developmental studies, foreign languages, and communications provide over 10 percent. Some campuses operate separate reading departments. One site-visit campus with probably the oldest reading department in the State administers the unit as a separate department out of the learning assistance center. In addition to the classes and individualized assistance which its staff provide, the department tests over 3,000 students a year through outreach activities in other departments throughout the college. Each testing session is followed by a class visit to explain the test scores. The staff also provides direct help to faculty in other departments by evaluating the readability level of their texts. As the efforts of this department become better known, the numbers seeking its services are increasing.

Wherever the discipline's administrative home, reading is taught almost entirely by full-time or part-time faculty for associate degree or certificate credit. In fact, over four-fifths of the courses receive degree credit and nearly 6 percent receive transfer credit. On one campus, 85 percent of the remedial reading courses carry transfer credit, while at other colleges, reading receives only workload credit.

## Writing Courses

The credit distribution of Community College writing courses is similar to that of remedial reading: essentially 100 percent award credit. Of these courses, 80 percent award degree or certificate credit, and a further 10 percent earn transfer credit. One site-visit campus has organized its freshman composition course in an unusual credit format. Called "English 10/1A," it allows students at the conclusion of the term to receive credit for either 1A--the usual freshman composition course--or for English 10--the course ordinarily preceding English 1A. Students may also receive credit for the remedial writing course, English 55, and then work their way up to English 10/1A. In the words of one faculty member, this arrangement does not "ghettoize" students and allows heterogeneous grouping which instructors at this college prefer.

Virtually all remedial writing--87.9 percent--is taught in English departments, although some is provided through learning assistance centers or by other academic departments like Mexican-American studies, business, and developmental studies. Wherever it is located, the faculty, rather than staff, teach remedial writing.

Site visits confirm that the increasing demand for English courses in the Community Colleges rests largely in composition rather than literature, although most colleges report holding their own in literature offerings. One college currently sponsors 85 sections of writing. Similar effort on other campuses has resulted in unexpected benefits. One urban college with 97 percent minority enrollment and average student writing skills at the sixth-grade level not only has produced students who have won a regional writing competition for the last three of four years but also offers a rich array of literature classes and has sponsored an impressive literary journal for over ten years.

## Course Offerings and Enrollments

Table 23 exhibits the number of courses, sections, and enrollments in remedial reading and writing courses in the Community Colleges

*TABLE 23 Courses in English and in Remedial Reading and Writing, California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N=99) | 1979-80 (N=101) | 1980-81 (N=101) |
|---|---|---|---|
| ALL ENGLISH COURSES | | | |
| Courses | 3,289 | 3,458 | 3,830 |
| Sections | 16,676 | 17,630 | 18,799 |
| Enrollments | 417,515 | 431,027 | 470,075 |
| REMEDIAL READING AND WRITING COURSES | | | |
| Courses | 934<br>(28.4%) | 1,195<br>(34.6%) | 1,197<br>(31.3%) |
| Sections | 7,506<br>(45.0%) | 7,987<br>(45.3%) | 8,559<br>(45.5%) |
| Enrollments | 186,938<br>(44.8%) | 195,798<br>(45.4%) | 211,845<br>(45.1%) |

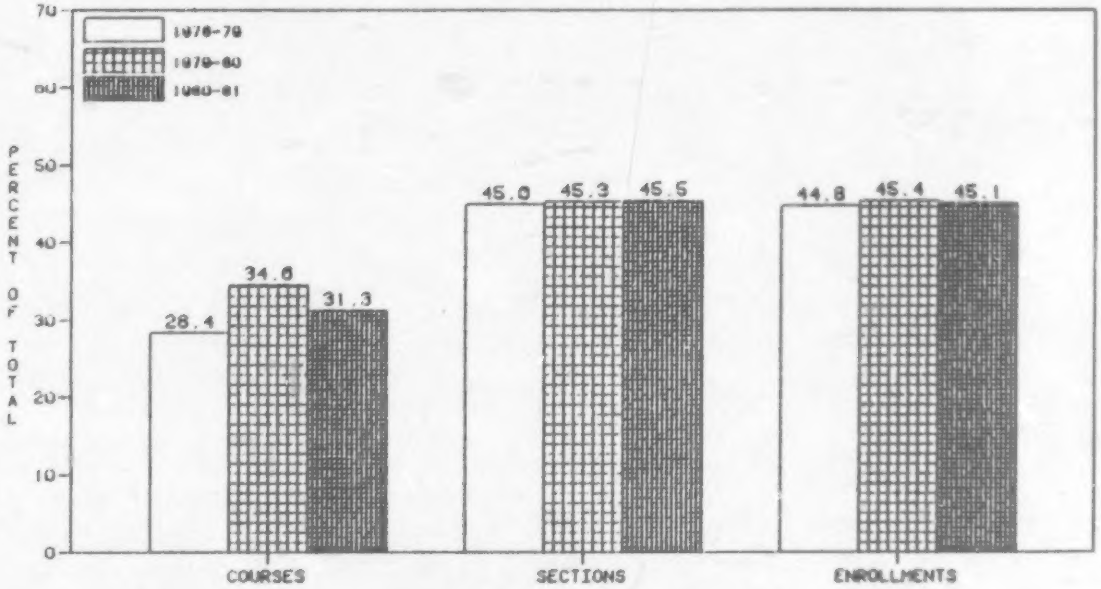
Note: Several colleges provided unduplicated counts and others could only estimate their numbers.

Source: California Postsecondary Education Commission Survey

from 1978-79 to 1980-81 compared to the same numbers for all English courses in composition, reading, and literature, both remedial and non-remedial. The percentages in parentheses, indicating the remedial portion of each category, show that for the past three years, 45 percent of all English sections and enrollments have been remedial. Figure 12 displays these proportions graphically. These enrollment percentages correspond with those from the ERIC Clearinghouse for Junior Colleges that nationally "around 40 percent of all English enrollments are in remedial reading or writing classes" (Cohen, 1981, p. 18).

Because of the large number of Community Colleges, the averages per reporting campus are shown in Table 24. As can be seen from both Tables 23 and 24, remedial reading and writing courses increased by 10 percent as a share of all English courses between 1978-79 and 1980-81, despite the lack of change in the proportion of sections and enrollments. These data indicate that the Community Colleges are creating more English courses targeted to the needs of their students. The number of courses offered has increased considerably --an average of 28 percent among remedial offerings. Both all English and remedial sections and enrollments have increased between 12 and 14 percent; thus enrollments per section have remained

*FIGURE 12 Remedial Reading and Writing as a Percentage of All English Courses, Sections, and Enrollments, California Community Colleges, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

*TABLE 24 Average Number of English and Remedial Reading and Writing Courses, Sections and Headcount Enrollments per Reporting College, California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N = 99) | 1979-80 (N = 101) | 1980-81 (N = 101) |
|---|---|---|---|
| ALL ENGLISH COURSES | | | |
| Courses | 32 | 34 | 38 |
| Sections | 168 | 175 | 186 |
| Enrollments | 4,217 | 4,268 | 4,654 |
| REMEDIAL READING AND WRITING COURSES | | | |
| Courses | 9 | 12 | 12 |
| Sections | 76 | 79 | 85 |
| Enrollments | 1,888 | 1,939 | 2,097 |

Source: California Postsecondary Education Commission Survey

*TABLE 25 Average Number of Sections per English Course and Remedial Reading or Writing Course, California Community Colleges, Academic Years 1978-79 Through 1980-81*

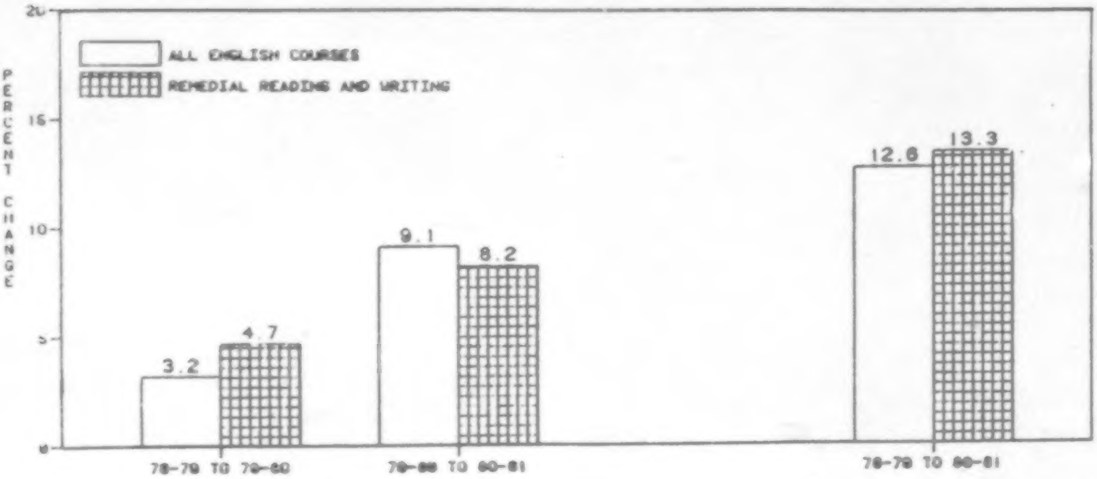
| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All English Courses | 5.1 | 5.1 | 4.9 |
| Remedial Reading or Writing Courses | 8.0 | 6.7 | 7.2 |

Source: California Postsecondary Education Commission Survey

essentially constant over the three years. Figure 13 shows that enrollment increases in all English courses have closely paralleled those in remedial reading and writing.

Table 25 on the opposite page and Table 26 below show that the colleges on the average offer more sections per remedial reading and writing course than per English course and that enrollment in each section, remedial or all English, has remained constant at about 25 students.

*FIGURE 13 Percent Increase in Enrollments in All English Courses and in Remedial Reading and Writing Courses, California Community Colleges, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

*TABLE 26 Average Enrollment in English and Remedial Reading or Writing Courses and Sections, California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All English Courses | 126.9 | 124.7 | 122.7 |
| Remedial Courses | 200.2 | 163.9 | 177.0 |
| All English Sections | 25.0 | 24.5 | 25.0 |
| Remedial Sections | 24.9 | 24.5 | 24.8 |

Source: California Postsecondary Education Commission Survey

## REMEDIAL INSTRUCTION IN MATHEMATICS

The definition of remedial mathematics in the Commission's survey appears to have generated more controversy in the Community Colleges than any other single issue. A number of respondents contend that intermediate algebra should not be considered remedial and raised questions about other courses as well. Faculty on all of the site-visit campuses view only arithmetic as remedial. (Their position appears to receive tacit approval by both the University of California and The California State University, which accept for transfer credit several of the courses defined as remedial in the Commission's survey.) There is evidence that some campuses did not follow the survey's definitions but reported instead what local faculty judged to be remedial. Thus the data reported in the following paragraphs may, if anything, understate student need and indicate only the minimum dimensions of the problem.

### Mathematics Courses

The basic level of mathematics taught in the Community Colleges begins with adding and subtracting whole numbers. One instructor has had students who did not know how to count, and another states that some students had not gotten beyond subtraction after almost a year's work. Inasmuch as some school districts require as little as one year of high school mathematics for graduation, sometimes at a very elementary level, the range of mathematics skills confronting Community College faculty members is enormous.

Although nearly 90 percent of all remedial mathematics sections are offered under the auspices of mathematics departments, other academic departments are also involved, including agriculture, business, chemistry, Chicano studies, developmental studies, economics, education, electronics, engineering, industry, nursing, and physics. Full-time and part-time faculty teach remedial mathematics almost exclusively in the Community Colleges, and virtually all such courses (99.5 %) are given for credit, nearly three-quarters of these for degree or certificate credit and almost one-fifth (17.6 %) for transfer credit.

### Course Offerings and Enrollments

In 1981-82, all 101 Community Colleges responding to the Commission's survey offered remedial mathematics. Table 27 displays the total number of all their mathematics and remedial mathematics courses, sections, and enrollments and indicates the percentage of the total devoted to remediation.

*TABLE 27 Courses in Mathematics and in Remedial Mathematics, California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N=97) | 1979-80 (N=99) | 1980-81 (N=101) |
|---|---|---|---|
| ALL MATHEMATICS COURSES | | | |
| Courses | 2,207 | 2,250 | 2,497 |
| Sections | 9,702 | 10,133 | 10,861 |
| Enrollments | 289,595 | 309,488 | 352,583 |
| REMEDIAL COURSES IN MATHEMATICS | | | |
| Courses | 709<br>(32.1%) | 750<br>(33.3%) | 805<br>(32.2%) |
| Sections | 5,330<br>(54.9%) | 5,508<br>(54.4%) | 5,910<br>(54.4%) |
| Enrollments | 171,632<br>(59.3%) | 181,771<br>(58.7%) | 200,925<br>(57.0%) |

Source: California Postsecondary Education Commission Survey

As with English, Table 28 reports these data per reporting campus Not only have courses, sections, and enrollments increased because additional campuses report activity in the area, but, on the average, courses, sections and especially enrollments have grown on each campus.

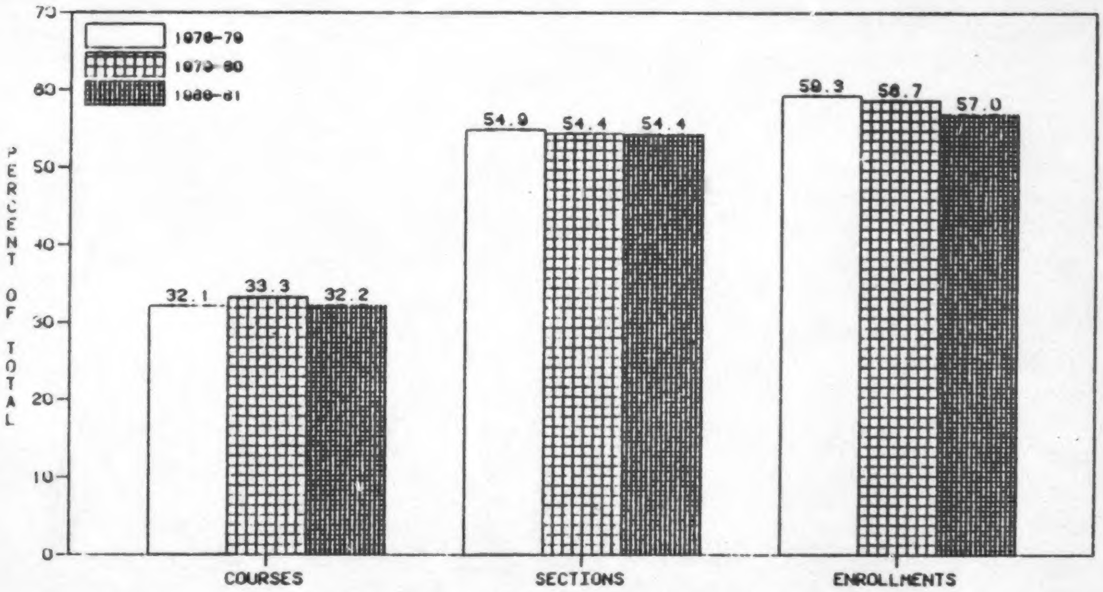
Figure 14 vividly illustrates that remedial sections and enrollments have accounted for over half of all mathematics sections and enrollments during the three years covered by the Commission survey. Within statistical error, it appears that the ratio of remedial courses and sections to all mathematics courses and sections has not changed in the last three years but that the proportion of students in remedial mathematics courses compared to all mathematics courses has declined by 3.9 percent. During the same period, the number of remedial courses increased at the same rate as all mathematics courses, but remedial sections and headcount enrollments increased more slowly than those of all mathematics offerings. Figure 15 depicts these overall changes in enrollment.

TABLE 28 *Average Number of Mathematics and Remedial Mathematics Courses, Sections, and Enrollments per Reporting College, California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79<br>(N=97) | 1979-80<br>(N=99) | 1980-81<br>(N=101) |
|---|---|---|---|
| ALL MATHEMATICS COURSES | | | |
| Courses | 23 | 23 | 25 |
| Sections | 100 | 102 | 108 |
| Enrollments | 2,986 | 3,126 | 3,491 |
| REMEDIAL COURSES IN MATHEMATICS PER REPORTING CAMPUS | | | |
| Courses | 7 | 8 | 8 |
| Sections | 55 | 56 | 59 |
| Enrollments | 1,769 | 1,836 | 1,989 |

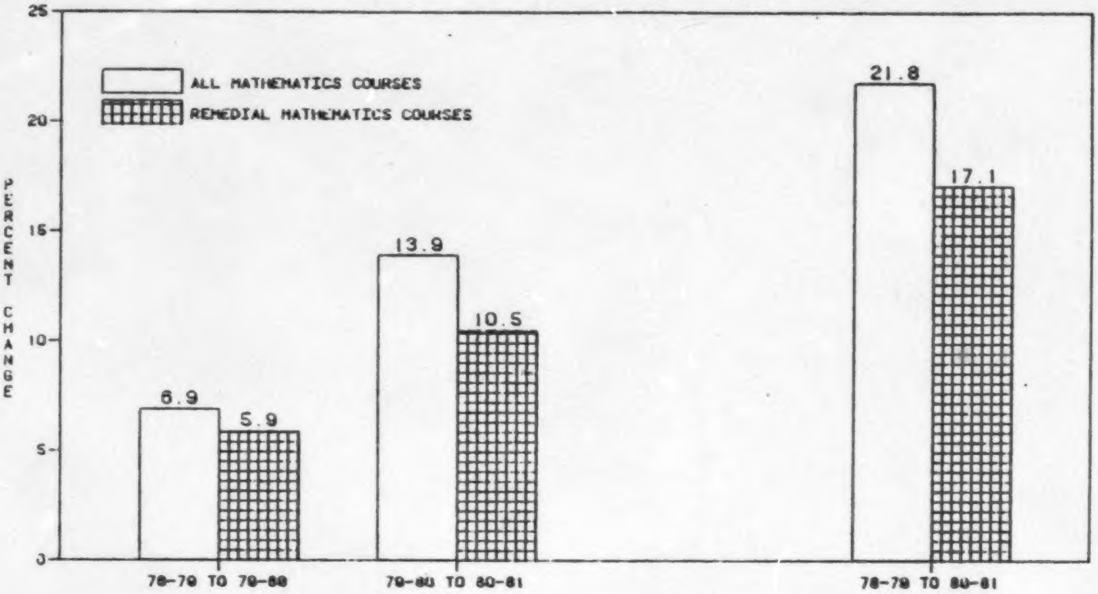
Source: California Postsecondary Education Commission Survey

FIGURE 14 *Remedial Mathematics as a Percentage of All Mathematics Courses, Sections, and Enrollments, California Community Colleges, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

*Figure 15 Percent Increase in Enrollments in All Mathematics Courses and in Remedial Mathematics Courses, California Community Colleges, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

As shown in Table 29, the number of remedial course sections is two-thirds greater than the number of sections for all mathematics sections, although both sets of numbers have remained relatively constant over the last three years. In contrast, Table 30 shows that the number of enrollments per course and per section has increased slowly over these years in both categories, with the number of students per remedial section remaining slightly larger than in all mathematics sections.

*TABLE 29 Average Number of Sections per Mathematics Course and Remedial Mathematics Course, California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All Mathematics Courses | 4.4 | 4.5 | 4.4 |
| Remedial Mathematics Courses | 7.5 | 7.3 | 7.3 |

Source: California Postsecondary Education Commission Survey

TABLE 30 *Average Enrollment in Mathematics and Remedial Mathematics Courses and Sections, California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79 | 1979-80 | 1980-81 |
|---|---|---|---|
| All Mathematics Courses | 131.2 | 137.6 | 141.2 |
| Remedial Courses | 242.1 | 242.4 | 249.6 |
| All Mathematics Sections | 29.9 | 30.5 | 32.5 |
| Remedial Sections | 32.2 | 33.0 | 34.0 |

Source: California Postsecondary Education Commission Survey

## INSTRUCTION IN ENGLISH AS A SECOND LANGUAGE

In March 1982, the Chancellor of the California Community Colleges pointed out that the continuing influx of about 50,000 refugees per year into the State was creating increased demand for Community College services, particularly in English as a Second Language (ESL). This demand is dramatically borne out by the ESL data received from the colleges themselves.

Since 1978-79, the number of Community Colleges offering ESL courses has increased from 86 to 91, the number of sections has risen 76 percent, and the number of enrollments 77 percent. The annual figures for all colleges appear in Table 31 and the average figures per reporting college are shown in Table 32. The growth in ESL is not solely an artifact of an increasing number of colleges offering such coursework, for on the average, courses, sections, and enrollments are growing on each campus as well.

Although English departments supervise nearly 80 percent of all ESL instruction, learning assistance centers offer over 10 percent of all ESL sections, and another 10 percent are conducted by other academic departments, including Chicano studies, developmental studies, foreign languages, and linguistics. One college has its own ESL department. Three departments at another college have together developed a sequential systematized ESL program for its large number of ESL students. (Sixty-four percent of the 5,500 students taking this college's mandatory English placement test last year indicated that their native language was not English--up from 55 percent the preceding year.)

*TABLE 31 Courses in English as a Second Language (ESL), California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N=86) | 1979-80 (N=89) | 1980-81 (N-91) |
|---|---|---|---|
| Courses | 492 | 609 | 710<br>(+44.3%) |
| Sections | 1,345 | 1,729 | 2,373<br>(+76.4%) |
| Enrollments | 33,768 | 43,817 | 58,934<br>(+77.5%) |

Source: California Postsecondary Education Commission Survey

*TABLE 32 Average Number of English as a Second Language (ESL) Courses, Sections, and Enrollments per Reporting College, California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N=86) | 1979-80 (N=89) | 1980-81 (N=91) |
|---|---|---|---|
| Courses | 6 | 7 | 8 |
| Sections | 16 | 19 | 26 |
| Enrollments | 393 | 492 | 648 |

Source: California Postsecondary Education Commission Survey

Across the whole Community College system, full-time and part-time faculty are primarily involved in teaching ESL, and credit is granted for nearly 92 percent of the courses--67 percent for degree or certificate credit and 21 percent for transfer credit.

Over and over again, faculty and administrators mention the impact of the influx of refugees, particularly Asian and Indo-Chinese, on their programs. Data in Tables 31 and 32 show that there has been a steady increase in the average number of sections per ESL course and in course enrollments, although the number of enrollments per section has remained constant. Thus the Community Colleges have accommodated the growing need not only with new courses but even more by adding new sections to courses.

The demand for ESL is by no means spread uniformly across the State. Although ESL students are found at nearly every college, five Bay Area colleges accounted for one-quarter of Community College ESL enrollments in 1980-81. Another quarter were concentrated in the greater Los Angeles area on eight campuses. Surprisingly, large numbers were also found in some rural areas.

This information on ESL is incomplete, for it does not include those services provided by the Continuing Education divisions of colleges or by adult education programs in school districts who have agreed to provide such services for the area. These programs too, are impacted, with long waiting lists. It is reasonable to conclude that this report has uncovered only the very tip of a very large iceberg.

## SPECIAL PROGRAMS AND REMEDIAL SUPPORT SERVICES

The goal of the California Community Colleges to meet the needs of each local community is nowhere more evident than in the diversity of special programs through which each college provides academic and special services for specific student populations. All 101 reporting institutions offer such programs which include Educational Opportunity Programs on 65 campuses, programs for students with disabilities on 45 campuses, for the learning disabled on 29, and for reentry women at 22 colleges. The full range of such activities encompasses special programs for veterans, Indo-Chinese, welfare mothers, ex-offenders, the traumatically head injured, and entering students. In addition, there are such campus-specific programs as the Student Educational Assistance Program (SEA), Youth Employment Program (YEP), Coop Agencies Resources for Education (CARE), Employment Training Program (ETP), and the Advancement Studies Institute (ASI). These programs were to be reported in the survey only if they contained a remedial component.

The Community Colleges also sponsor a vast system of remedial support services for students. Nearly all of the colleges offer some sort of diagnostic testing and basic skills tutoring; 90 percent provide learning laboratories, special academic advising, and special counseling; and approximately two-thirds of the colleges also give workshops in study skills and in basic skills. Some colleges also indicated other support services like computer-assisted instruction, test anxiety counseling, computerized diagnosis and prescription, learning disabilities counseling, audio visual tutoring, and peer advising.

Rather than being clustered in one or two administrative homes, the remedial support services provided by the Community Colleges appear to be distributed over several campus units. For example, on those campuses that indicated one unit as bearing the primary responsibility for a specific support service, 24 percent of the colleges offer diagnostic testing in their learning assistance centers; 23 percent in academic departments, primarily English and mathematics, although ESL, science, nursing, and forestry are also represented; and nearly half the campuses make testing available through other units like campus testing offices, counseling centers, or student services units. Similar organizational diversity is evident for the other services, with the learning assistance center taking major responsibility for tutoring and basic skills workshops, learning laboratories, and study skills workshops, while special programs appear most often to administer special counseling and academic advising. In all of these cases, however, a substantial fraction of the services is provided by several other campus units. Once more, the organizational diversity of the Community Colleges is apparent.

## EVALUATION OF REMEDIATION

Although approximately three-quarters of the colleges responded affirmatively to the question regarding evaluation of remediation activities, their description both of the evaluation models used and the outcomes points to informal, rather than formal, procedures. Remedial courses and services on most campuses are evaluated in the same way as other academic programs, through student or teacher evaluations, but few special studies to evaluate the success of remedial programs are to be found. Special programs like EOPS that require evaluation by or for outside agencies receive more scrutiny. As with any generalization about the Community Colleges, however, this one must be tempered by noting that several colleges reported highly sophisticated and impressive tracking and evaluation procedures, while others did no evaluation of any kind. Some colleges acknowledged that they needed to do more, citing problems of time and money, and still others advised that better evaluation models were in the planning stage.

Only 37 percent of the responding campuses said that they followed progress toward degree of those students who had taken remedial courses and that these evaluations were done primarily for specific populations of students. This relatively low response rate is not surprising in view of the percentage of students who transfer from the Community Colleges to a four-year institution, and the survey question appears more applicable to the four-year segments.

## COSTS

The cost of remediation, while in some sense the most important variable being measured, is also the one which is least likely to be completely accurate for this segment. Some campuses were very clear that they could not separate the costs of their reading and writing programs, as the two areas were too closely intertwined. Therefore, the costs of the two programs are combined below. Many campuses also despaired of properly allocating administrative costs and stated that their figures were "guesstimates" or excluded such costs entirely. Some campuses included costs for their learning disabled programs, presumably if such programs met the definitions for the study. An undetermined number of colleges included summer school costs even though the directions specifically stated not to. Many colleges found it difficult to identify all remedial support costs because support services serve the entire student population. Other colleges encountered the same problem with remedial courses.

Many respondents complained that because a formula for determining costs had not been included (although general cost categories were), the figures would not be comparable across campuses. Some colleges gave figures for one category but not for another. Some colleges did not respond to the cost question at all. Some colleges gave estimates. Others gave precise figures. Some colleges replied gladly; others did not respond even after five follow-up phone calls from Commission staff.

All of these caveats notwithstanding, the data contained in this section represent the most complete information on remedial costs in the California Community Colleges available today. It is also likely that the problems cited above lead to cost figures which are somewhat low rather than too high.

## Distribution of Costs

During 1980-81, the Community Colleges spent an estimated $66 million on remedial courses and support services for their students. Table 33 depicts these costs for the three years under consideration by this study with the figures in parentheses reflecting the percentage of total remedial costs represented by that dollar amount.

Figure 16 displays the same information as Table 33. The most striking feature of the data is that, with the exception of ESL, the proportion of funds allocated to the basic discipline areas has remained essentially constant. The proportion of total remediation expenditures as a fraction of total institutional budget has also remained constant over the three years, hovering around 5.1 percent.

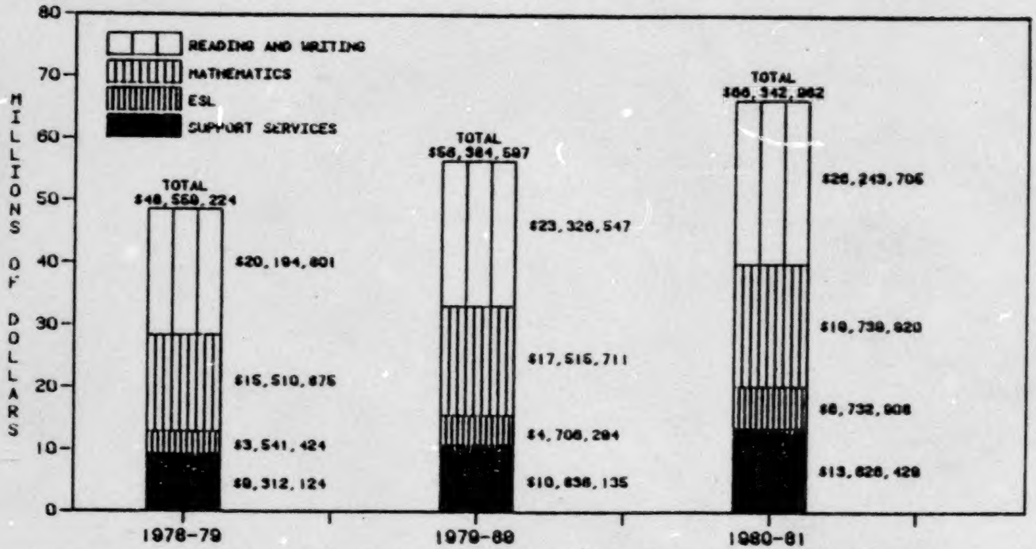
Because of the large number of cases in the Community College system, it may be useful to examine the average costs per reporting campus, as shown in Table 34.

*TABLE 33 Remediation Expenditures, California Community Colleges, Academic Years 1978-79 Through 1980-81*

|  | 1978-79 (N=92) | 1979-80 (N=94) | 1980-81 (N=94) |
|---|---|---|---|
| REMEDIAL COURSES |  |  |  |
| Reading and Writing | $20,194,801<br>(41.6%) | $23,326,547<br>(41.4%) | $26,243,705<br>(39.6%) |
| Mathematics | $15,510,875<br>(31.9%) | $17,515,711<br>(31.0%) | $19,739,920<br>(29.8%) |
| English as a Second Language | $ 3,541,424<br>(7.3%) | $ 4,706,204<br>(8.3%) | $ 6,732,908<br>(10.1%) |
| Subtotal for Courses | $39,247,100<br>(80.8%) | $45,548,462<br>(80.8%) | $52,716,538<br>(79.5%) |
| REMEDIAL SUPPORT SERVICES | $ 9,312,124<br>(19.2%) | $10,836,135<br>(19.2%) | $13,626,429<br>(20.5%) |
| TOTAL REMEDIATION EXPENDITURES | $48,559,224 | $56,384,597 | $66,342,962 |

Source: California Postsecondary Education Commission Survey

*FIGURE 16 Expenditures for Each Remedial Activity as a Component of Total Remediation Expenditures, California Community Colleges, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

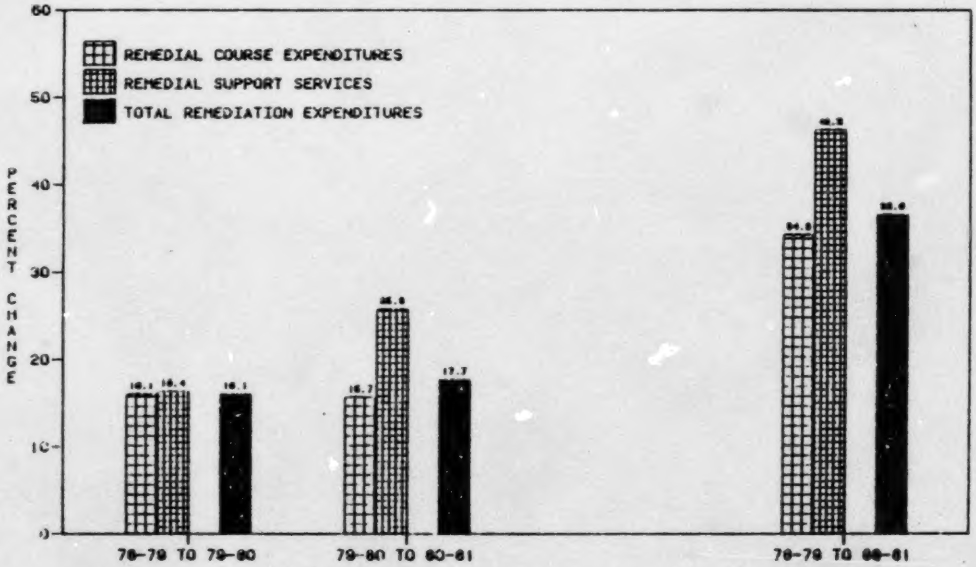
*TABLE 34 Average Remediation Expenditures per Reporting College, California Community Colleges, Academic Years 1978-79 Through 1980-81*

| | 1978-79 (N=92) | 1979-80 (N=94) | 1980-81 (N=94) |
|---|---|---|---|
| REMEDIAL COURSES | | | |
| Reading and Writing | $219,509 | $248,155 | $279,189 |
| Mathematics | $168,596 | $186,337 | $209,999 |
| ESL | $ 38,494 | $ 50,066 | $ 71,627 |
| Subtotal | $426,599 | $484,558 | $560,814 |
| REMEDIAL SUPPORT SERVICES | $101,219 | $115,278 | $144,962 |
| TOTAL REMEDIATION EXPENDITURES | $527,819 | $599,836 | $705,776 |

Source: California Postsecondary Education Commission Survey

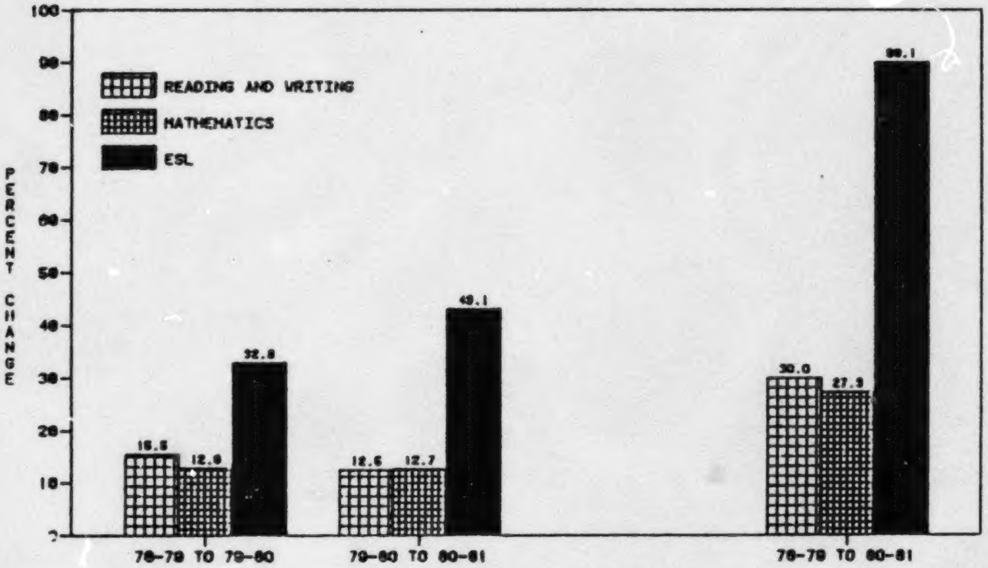
Converting the information in the two preceding tables into percentage changes over time displays more vividly the increasing fiscal effect of remediation on the system. As Figure 17 indicates, $66 million represents a 36.6 percent increase over 1978-79 and a 17.7 percent increase from 1979-80. The differentiation between subject areas in terms of percentage change is shown in Figure 18. Not surprisingly, expenditures for ESL have grown as the colleges' efforts in this area have expanded.

*FIGURE 17 Percent Increase in Expenditures for Remedial Activities, California Community Colleges, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

*FIGURE 18 Percent Increase in Expenditures for Remedial Courses, California Community Colleges, Academic Years 1978-79 Through 1980-81*



Source: California Postsecondary Education Commission Survey

## Sources of Funds

The sources of the funds used by the Community Colleges for remediation expenses in 1980-81 are displayed in Table 35, both in estimated dollar amounts and in percentages of total remediation costs.

The State is clearly the almost exclusive funding source for remedial activities in the Community Colleges, with a contribution of $93 for every $100 spent. Of the money spent on courses, the State funds 96 percent of the total and over 81 percent of the monies spent on support services.

*TABLE 35 Funding Sources for Remediation Expenditures, California Community Colleges, Academic Year 1980-81*

| Funding Source | Remedial Courses | Remedial Support Services | Total |
|---|---|---|---|
| Federal | $ 1,380,380<br>(2.2%) | $ 1,520,208<br>(2.4%) | $ 2,900,588<br>(4.6%) |
| State | $48,600,182<br>(76.4%) | $10,597,936<br>(16.7%) | $59,198,118<br>(93.0%) |
| Special/Institutional | $ 5,483<br>(0.01%) | $ 208,108<br>(0.3%) | $ 213,591<br>(0.3%) |
| Student Fees | $ 22,809<br>(0.04%) | $ 7,183<br>(0.01%) | $ 29,992<br>(0.05%) |
| Direct Assessment (Class Fees) | $ 0<br>(0.0%) | $ 0<br>(0.0%) | $ 0<br>(0.0%) |
| Grants | $ 211,941<br>(0.3%) | $ 616,777<br>(1.0%) | $ 828,718<br>(1.3%) |
| Other | $ 435,897<br>(0.7%) | $ 50,157<br>(0.1%) | $ 486,054<br>(0.8%) |
| Total | $50,656,692<br>(79.6%) | $13,000,369<br>(20.4%) | $63,657,061<br>(100.0%) |

Source: California Postsecondary Education Commission Survey

## SUMMARY

- Testing in the California Community Colleges is not easily characterized. Procedures range from no testing at all on one campus to a sophisticated system in all subject areas at another.

- All community colleges offer remedial reading coursework. Approximately 80 percent of these courses receive degree or certificate credit.

- The proportion of enrollments in remedial reading and writing courses has remained virtually constant at 45 percent of the enrollments in all English courses over the last three years. At the same time, the proportion of remedial courses to all English courses has risen, suggesting that the colleges are creating more courses targeted to the specific needs of their students.

- Students in mathematics courses defined as remedial by the Commission's survey account for over half of the students in all mathematics courses. The number of students in remedial mathematics courses is rising rapidly but not as rapidly as the number of students in all mathematics courses. Most Community College faculty do not agree that intermediate algebra is remedial, and there exists some disagreement about lower-level courses as well.

- Many colleges are bursting with ESL students; the number of enrollments has exploded 77 percent in three years.

- Some type of credit is awarded to nearly all remedial courses by the Community Colleges. Seventy to 80 percent of these credit courses, depending on discipline, receive associate degree or certificate credit.

- Virtually all remedial courses in the Community Colleges are taught by either full-time or part-time faculty. Except in ESL, where the load is nearly equally shared, full-time faculty teach the preponderance of the remedial courses.

- Many and diverse special programs and support services, housed in a number of administrative centers, exist in the Community Colleges.

- Most Community Colleges do not evaluate their remedial courses and support services except in a very informal fashion.

- The cost of remediation for the California Community Colleges in 1980-81 was at least $66 million with the State serving as major contributor with 93 percent of that amount.

# PART THREE

## CRISIS INTO OPPORTUNITY: A DISCUSSION OF THE POLICY IMPLICATIONS FOR REMEDIAL EDUCATION IN CALIFORNIA

> It was the best of times, it was the worst of times.
>
> Charles Dickens

Dickens' opening words to The Tale of Two Cities may as accurately describe the last two decades of American higher education as they do western Europe two centuries ago. It has, indeed, been the best of times. Postsecondary institutions serve an increasing percentage of the population, ranging from the student of traditional college age to the senior citizen. Beginning in the 1960s, higher education's doors opened to women and minorities in numbers unknown in previous years. Financial aid from all sources reached unprecedented proportions. Two-year and four-year institutions, public and private, grew and flourished, and the student was faced with the choice of where to go, rather than whether. For many, the dream of higher education became a reality, and a college degree was no longer largely restricted to those with money, status, or power.

Implicit in this move to mass, then universal, higher education lay the assumption that it was worth the time, the effort, and the money to educate everyone in order to benefit both the individual and society. Remediation thus became a natural consequence of the change from education as a privilege to education as a right (Hechinger). But it is not clear that higher education counted all the potential costs, both fiscal and educational, of this move nor recognized that it might require a reexamination of certain functions of higher education.

Even the designers of the California Master Plan may not have anticipated the full consequences of their decisions. The Plan declares that the University of California and the now State University System should be "exacting . . . because the junior colleges relieve them of the burden of doing remedial work." At the same time, however, "the junior colleges must protect their quality by applying retention standards rigid enough to guarantee that taxpayers' money is not wasted on individuals who lack capacity or the will to succeed in their studies." Clearly, quality was wanted along with equality, and the day when the Community Colleges would offer work at very basic levels, and when few distinctions would be made between the underprepared, the unprepared, and the incapable, was not envisioned.

During the 1970s, the whole educational system became increasingly troubled. Skill levels declined and vast numbers of students entered college without knowing how to write, how to compute, or even how to read at adequate levels. The trickle of educationally disadvantaged students of the 1960s swelled to include students across all socioeconomic, ethnic, and gender lines. And at the same time that societal standards, institutional expectations, and student skill levels declined, so did financial resources. Fiscal stress at all levels led to institutional strains: reductions in enrollment, faculty, and programs; higher tuition and student fees; and uncertainty regarding financial aid. Although it can be well argued that the present situation is the result of historical accident rather than the changing nature of education, the best of times does run the danger of becoming the worst of times.

Yet every time of crisis brings with it opportunity, and the widespread recognition of student underpreparedness has brought with it the opportunity to improve education. As noted in Part One of this report, change is occurring both at the secondary and postsecondary levels in the form of elevated academic standards, rededication to rigor and discipline, clear expectations, required competencies, increased college admissions criteria, and greater attention to the quality of teaching and teacher preparation. These changes are occurring nationally and have begun in educational institutions in California. Although this report indicates the problems facing the State, it should also be kept in mind that some steps to reform have already been taken. The following sections comment upon specific ways to continue such improvements, and the recommendations which conclude each section provide a comprehensive strategy for the postsecondary segments to follow. Although the recommendations can each stand alone, their strength lies in the clear and strong links among them.

## REMEDIAL EDUCATION AND SEGMENTAL ROLES

According to the survey data based on the Commission's definition of what constitutes remedial courses and services, activities to assist the underprepared student have become increasingly prevalent in all three segments of higher education in the State. Both the University of California and the California State University have introduced a substantial number of remedial courses in their curricular programs. Although the need for remediation and the provision of such services are not new to either system, what is different are the present-day dimensions. Underpreparedness is both qualitatively and quantitatively different today from what it was

50, 25, or even 10 years ago. In 1980-81, remedial courses in reading, writing, and mathematics in the University of California and the California State University accounted for over 50,000 enrollments at a cost of more than $9 million. In the California Community Colleges, the 400,000 enrollments in remedial English and mathematics courses constitute nearly half of total enrollments in these subject areas at a cost of almost $46 million. Numbers alone may provide a distorted picture of remedial education in the State, however, if one does not also consider the role of each segment as enunciated in the 1960 California Master Plan and the evolving role and function of each since that time.

## University of California and The California State University

The University of California and the State University continue to adhere to the Master Plan recommendations on structure and function as well as on admissions policies and procedures, but not even the top one-eighth of all California public high school graduates today are all adequately prepared for matriculation in a four-year college. Yet as every faculty member and administrator interviewed during the site visits stated, if students meet the admissions criteria or qualify as exceptions, the institution has a responsibility to serve them. As a result, both four-year segments have added diagnostic testing mechanisms, remedial coursework, and remedial support services to aid their students. On a year-to-year basis, therefore, the remedial student has been relatively well served by courses and services, although survey data indicate unmet need in the reading and writing areas within the State University and site visits revealed problems in providing services to ESL students on certain campuses within that same system. Further diagnostic testing, particularly in mathematics, may in the future reveal greater numbers of students in need of assistance.

Because remedial activities have grown reactively, no institution appears to have an integrated comprehensive approach to its remedial problems. Survey data indicate that academic departments, special programs, learning assistance centers, and other student service units offer remedial courses and services throughout a campus, and site visits suggest that among these units, some degree of duplication exists. It would appear that further coordination and integration of remedial activities are needed.

Both segments have taken a positive step within the last year to reduce the number of underprepared students entering their doors by raising their admissions standards. Perhaps even more importantly, the segments' Academic Senates have agreed on their expectations for the high school courses required for admission. But until these changes take effect, and they cannot without concurrent reform in the high schools, the problem of remediation will remain at least as great as it is today. Whether or not the long-range approach of increased admissions standards, together with certain secondary school reform, proves successful in improving the preparation of students, intervening generations require continuing efforts to prevent wastage of human potential. Moreover, if institutions maintain their commitment to access, both to the educationally disadvantaged and to those wishing to reenter higher education after some appreciable interval, the need for remedial courses and services at the University of California and the California State University will continue in some measure and will never entirely disappear unless society reaches utopic levels. As pointed out in an earlier section to this report, history indicates that remediation is not a temporary phenomenon but a permanent one. Nonetheless, the four-year segments should continue their efforts to maintain collegiate standards and to influence student preparation at the secondary level with the ultimate goal of reducing the need for remedial offerings.

Recommendations:

1. That the University of California and the California State University each develop by no later than March 1, 1984, a plan whose goal is to reduce remedial activities in reading, writing, mathematics, and English as a Second Language within a five-year period to a level consonant with the principles of both quality and access as determined by each segment. In developing such plans, the segments should take into account the anticipated effects of increased admissions requirements and the steps taken by the high schools to improve student preparation. These plans shall be transmitted to the California Postsecondary Education Commission for review and comment.

2. That the University of California and the California State University in the interim continue to offer or make available remedial activities in reading, writing, mathematics, and English as a Second Language to the degree dictated by the needs of incoming students as determined by appropriate assessment. In the interest of better coordination and integration, each segment should examine the means by which its campuses offer remediation in reading, writing, mathematics, and English as a Second Language, in order to ensure maximum quality, responsiveness to student need, lowest cost, and least duplication.

3. That the University of California and the California State University explore cooperative arrangements with institutions such as Community Colleges and K-12 adult schools to provide remedial activities in reading, writing, mathematics, and English as a Second Language.

4. That the University of California and the California State University assist the high schools in defining the standards for college-preparatory courses and in providing staff development through activities like, but not limited to, the California Writing Project and the California Mathematics Project. That the University and the State University continue to monitor the preparation of incoming students from feeder high schools through entry-level diagnostic testing in all basic skills areas and report such data to local boards of education, the State Department of Education, and the California Postsecondary Education Commission. (Also see Recommendation 9.)

## California Community Colleges

The segment whose mission and function have changed considerably when compared to that stated in the Master Plan is the California Community Colleges. Partly in response to legitimate community need as well as to legislative mandate, the role of the Community Colleges has expanded beyond that envisioned over twenty years ago when the then-junior colleges were to offer "standard collegiate courses for transfer to higher institutions; vocational-technical fields leading to employment, and general, or liberal arts courses." Today, neither the name is the same nor are the functions so limited. According to the Statewide Longitudinal Study recently released by the Chancellor's Office, 18 student prototypes more accurately describe the diverse functions of today's Community Colleges including transfer students, student athletes, expediters, job seekers, job upgraders, career changers, license maintainers, leisure skills students, and explorer/experimenters.

If one adheres to the Master Plan description of the role of the two-year college, then the Community Colleges may seem to have expanded their remedial programs to an unwarranted degree. If one believes, however, that the Community Colleges have fundamentally changed from two-year junior colleges to community institutions, then the nature, extent, and cost of remediation as offered by the Community Colleges is not inappropriate and may indeed be commended.

Because the Community Colleges must accept "any high school graduate and any other person over eighteen years of age . . . capable of profiting from the instruction offered," then what is remedial at the Community College must differ from what is remedial at the four-year segments who are instructed to accept students within a certain percentile of their graduating classes. Thus, the survey results discussed in Part Two of this report must be analyzed and the data judged with the colleges' expanded role and admissions policies in mind. For example, the survey results as well as the site visits indicate that intermediate algebra may be too high a level to be considered remedial in the Community Colleges, and the figures regarding remedial mathematics instruction must thus be adjusted downward. However, disagreement exists over whether remedial mathematics in the Community Colleges includes elementary algebra and plane geometry or whether arithmetic alone is remedial as many Community College mathematics faculty would aver. Results from the Course Classification System survey indicate the wide range of thought within the Community Colleges regarding the distribution of those courses which this report terms remedial.

It is not clear, even with the move from junior college to community college, that public funds are being wisely spent by providing instruction at very basic levels. Although second-grade reading, writing, and arithmetic may be considered "preparatory" to college-level work in some long-range view, such work should be mastered during the student's elementary or secondary years. While the argument can be offered that a student may not have been developmentally ready to learn at an earlier age, may arrive at the Community College's door with little or no earlier schooling, or may not have been well served by the elementary or secondary schools previously attended, it can also be argued that such students might begin their education in the adult basic education programs housed either in the school district or in the Community College, both to demonstrate their own commitment to learning and to protect the educational integrity of the Community College. Rather than penalizing students, particularly the poor and minorities who have often not received the same academic preparation as middle-class students, such redirection ultimately helps both the student and the institution because the educational opportunity being offered is an honest one. Many observers, including minority educators, believe that it is not fair to purport to give a college education when the student is actually receiving the education that should have been his in elementary school.

Community Colleges are also caught between having to serve all students and meeting the Master Plan's stipulation that "taxpayers' money is not wasted on individuals who lack capacity or the will to succeed in their studies." If the practice of open admissions is to continue, then the Community Colleges have the responsibility to serve those students whom they admit. At the same time, in order to fulfill their responsibility both to the student and to society, the Community Colleges also must ensure that standards and progress are maintained. Florida's Miami-Dade Community College has taken a rigorous approach to education at an open admissions institution by relying on a comprehensive assessment, placement, and advisement system. Another way of protecting educational integrity without forfeiting open admissions is to admit all students who demonstrate a certain level of competence. For example, if the ability to read, write, and compute at the sixth-grade level is deemed appropriate for college-level work at a Community College, then every student with these capabilities can be admitted. Thus the college remains an open admissions institution with an academic floor, a floor which may be common to all colleges, programs, and majors across the State or may differ as each college population differs. To paraphrase John Gardner, unless we educate our plumbers as well as our philosophers, neither our pipes nor our theories will hold water.

Recommendations:

5. That the California Community Colleges continue to be considered in the long term as the primary postsecondary provider of remedial courses and services in reading, writing, mathematics, and English as a Second Language in the State in addition to their academic, vocational, and community service functions.

6. That the Board of Governors of the California Community Colleges establish an academic floor below which instruction would not be offered. That they redirect students below this level to the adult basic education program operated either by the local community college or school district. A reasonable period of time should be allowed before this floor is instituted.

7. That the Board of Governors of the California Community Colleges take steps to ensure that all Community College districts establish comprehensive assessment/placement, advising, and follow-up programs to ensure adequate progress of remedial students. (Also see Recommendation 14.)

8. That the Community College districts enter into delineation of function agreements with feeder high school/districts within their boundaries regarding preparatory activities and courses in reading, writing, mathematics, and English as a Second Language; such agreements may include cooperative arrangements for serving underprepared adults. The articulation agreements shall be transmitted to the Board of Governors.

9. That the Board of Governors of the California Community Colleges work with the University of California and the California State University to assist high schools in defining the standards for college-preparatory courses and in providing staff development through activities like, but not limited to, the California Writing Project and the California Mathematics Project. That the Board of Governors of the California Community Colleges encourage the Community College districts to monitor the preparation of incoming students from feeder high school through entry-level diagnostic testing in all basic skills areas and report such data to local boards of education, the State Department of Education, and the California Postsecondary Education Commission. (Also see Recommendation 4.)

(The Commission and the Chancellor's Office of the California Community Colleges will jointly determine the appropriate deadlines for all recommendations directed specifically to the Community Colleges.)

In addition to the policy issues raised in reference to the California Master Plan, the Commission's research on remedial education has called attention to other policy matters which will be discussed in the following pages.

## CREDIT AND ITS LINK TO FUNDING

Perhaps the most perplexing problem in any discussion of remedial education is the awarding of credit for remedial coursework and credit's link to funding in California. Credit is higher education's coin of the realm; it designates that both the student and the course have met certain standards. The Commission's survey revealed that a large percentage of remedial courses offered by the segments is offered for degree credit and a significant though lesser amount is offered for transfer to one or both four-year segments. It is not clear that degree credit or transfer credit for remedial coursework contributes either to quality or to equal opportunity.

There is fiscal impetus to grant credit, however. Unlike the Community Colleges where both credit and noncredit courses are funded, the State funds only credit courses in both the University of California and The California State University. Thus, institutions facing financial pressures might grant credit to as many courses as possible. The academic coin of the realm is in danger of being debased by the need for today's dollars, and fiscal imperatives rather than educational ones are driving the system.

The Educational Policy Committee of the University of California's Academic Senate is currently considering a proposal which would remove baccalaureate degree credit from all remedial courses. Since the State funds only those courses which grant University credit and count toward the baccalaureate degree, a likely consequence if this proposal is carried forth is that fees would be charged for remedial courses or else that the University would remove itself entirely from the remedial business. (The status of Subject A and English as a Second Language as remedial courses would have to be clarified by the University.) This proposal undoubtedly reflects an increasing impatience on the part of some faculty with underprepared students and the need to serve them and the faculty's deep concern that the University of California may be teaching at a level below that to be expected of one of the foremost educational institutions in the world. Although the presumed impetus behind the proposal is understandable and its approach pedagogically sound, the recommendations bear great consequence for the principle of access particularly at a time when existing levels of student charges have increased dramatically in recent years.

A more appropriate method for funding remedial courses may be that followed by some campuses of the California State University. When the Legislature funded the English Placement Test for the State University in 1977, and the remedial courses necessary to serve the students identified by the test, campuses could grant either baccalaureate degree or workload credit for these courses, both funded by the State. The latter, while counting toward the student's workload and thus allowing the student continuing eligibility for financial aid, does not count toward the baccalaureate degree. In 1980, in Executive Order 338 which deals primarily with the system's new general education requirements, the move to grant workload credit only for remedial courses was completed, as the Executive Order mandated that no coursework to overcome deficiencies in entry level learning skills should be applicable to the baccalaureate degree. This funding mechanism which separates degree credit from dollars allows institutions to be responsive to student needs while retaining collegiate standards and maintaining external accountability to the State. If both four-year segments reduce their level of remedial course offerings as recommended by this report, the number of remedial courses requiring workload credit funding should begin to decline within a very few years. In the meantime, the segments need to establish criteria in order to determine which remedial courses are eligible for workload credit.

The credit situation differs substantially in the California Community Colleges since they are allowed full funding ($1,930 on the average) for remedial courses whether or not associate degree credit is given. Because local practice varies, however, some districts grant AA degree credit for remedial coursework as defined by this study; others give elective credit which may or may not count toward the degree, while still other districts grant no credit for remedial courses. Two other options for remedial work are noncredit courses funded at a lower ADA rate by the State ($1,100 on the average) and Community Service courses funded not at all by the State.

Recommendations:

10. That neither the University of California nor the California State University shall grant baccalaureate credit for courses in reading, writing, and mathematics defined by the faculty as

remedial in accord with each system's policy and that the award of workload credit should not affect the level of State funding for these remedial courses. Furthermore, that the University of California and the California State University shall describe the courses defined as remedial and report the number of students enrolled and the workload generated in these courses to the Commission by December 1, 1983, and during the following five years in which the University and the California State University implement their plans to reduce remediation.

11. That the segments examine their policies and procedures to ensure that remedial coursework not granted baccalaureate degree credit by a four-year institution also not be identified as transfer credit by a two-year institution.

12. That the Board of Governors of the California Community Colleges take steps to ensure that the Community College districts examine their policies and procedures regarding the granting of associate degree credit to remedial courses.

## ENGLISH AS A SECOND LANGUAGE

The questions arising from the infusion of English as a Second Language students into California's colleges and universities appear to be fundamentally different from those engendered by the other basic skills areas. Although only a portion of ESL may be considered remedial and thus have bearing on this study, the entire ESL issue carries import for all three segments. As indicated by the survey data, the California Community Colleges and the California State University in particular have experienced a dramatic increase in the number of students requiring ESL courses and services, and a number of studies by both federal and State agencies suggest that this need will continue to grow. Yet the nature, extent, and cost of the demand for ESL instruction at the postsecondary level remain unknown.

Recommendation:

13. That the University of California, the California State University, the Chancellor of the California Community Colleges, and the State Board of Education examine by no later than January 15, 1984, the clientele, provision of services, and potential growth of English as a Second Language services as a preliminary step in the development of a coherent philosophy and practical strategy to meet both current and future need.

## DIAGNOSTIC TESTING AND ASSESSMENT

In order to validate the skills enumerated in the Statement of Competencies endorsed by the three statewide Academic Senates, testing is clearly required, whether systemwide or at individual campuses. Statewide proficiency testing at the postsecondary level already occurs in New Jersey, Florida, and Georgia, while other states have taken a decentralized approach and have encouraged their institutions to undertake testing activities on their own either at entrance or exit or both. The University of California already has some of its basic skills testing mechanisms in place with its Subject A examination and the UC/CSU Math Diagnostic Tests in use on all campuses. Similarly, the California State University relies upon its English Placement Test (EPT), the English Equivalency Examination (EEE), and will begin systemwide mathematics testing in Spring 1983 with its new Entry Level Mathematics (ELM) Examination, covering arithmetic, elementary algebra, and plane geometry. In contrast, although many Community Colleges offer some form of diagnostic testing, few employ an integrated comprehensive approach. While there appears to be a need for a common standard in the segment, local autonomy makes agreement on the issue difficult to achieve. In addition, no comprehensive plan exists in any of the segments regarding their work with the high schools to test high school students according to the competencies agreed upon as necessary by all three postsecondary segments.

Recommendations:

14. That the Board of Governors of the California Community Colleges develop a set of alternative models for assessment/placement which individual colleges can adapt to the needs of their students. (Also see Recommendation 7.)

15. That all three segments, in the interest of improved articulation, explore with the State Board of Education and the State Department of Education the possibility of using appropriate postsecondary diagnostic tests so that high school students can be assured of consistent expectations between high schools and colleges and thus be encouraged to obtain the necessary skills before entering college.

## EVALUATION

The lack of evaluation found in remedial programs across all three segments is not limited to California but appears in institutions across the country. Several reasons exist for this widespread inadequacy. First, educational evaluation remains in a nascent stage and is just emerging as part of the state of art in education. Moreover, colleges and universities appear to be so busy trying to meet their students' needs that they do not evaluate the efficacy of their efforts, citing reasons of time, energy, and money. Thus no one knows if remediation is really working or if one segment or one approach is more effective than another. Because little is known about the outcomes of remediation, it is difficult to formulate overall policy or a comprehensive plan, either at the segmental or statewide level. The question also arises regarding the rationale for evaluating remedial education any more rigorously than other educational programs. If student and faculty evaluations are good enough for the regular curriculum, why will they not suffice for remedial courses and services? The answer, of course, is that remedial education has experienced considerable recent growth, its position within higher education seems at least debatable, and its status is thus more uncertain. These reasons alone should confirm the need for evaluation.

Recommendations:

16. That each segment develop by no later than March 1, 1984, a rigorous program evaluation model for remedial courses and services in reading, writing, mathematics, and English as a Second Language, using some common criteria and common vocabulary to ensure comparability across segments and report the implementation on their campuses in their 1985 report. (See Recommendation 17.)

17. That the University of California, the California State University, and the Board of Governors of the California Community Colleges report biennially by December 1 to the California Postsecondary Education Commission regarding each segment's progress on each of the applicable recommendations in this report. These reports shall commence in 1985; after the third such report, the Commission will determine if further reports are necessary.

## FURTHER CONSIDERATIONS

Although the major policy issues arising from the Commission's research findings have been addressed, some further questions remain to be discussed.

First, it is not clear that students should be allowed to retake, and the State pay for, remedial courses on an unlimited basis or for an extended period of time. Robert McCabe, president of Florida's Miami-Dade Community College that has been in the forefront of recent community college educational reform, has observed that "there must be a point at which it is determined that the student is not going to succeed at the institution, and further public investment is not justified." In this vein, the Louisiana Board of Regents has recently recommended that funding for remedial education be at an enriched level if the institution implements an approved program for remedial education in accordance with guidelines set by a statewide Task Force and that full-time students be given no more than three attempts, i.e., semesters or equivalent, to make up all deficiencies. This issue is broader than funding alone because it focuses on the societal vs. individual benefits of higher education and raises the question of whether or not an individual should be given unlimited opportunities to obtain a higher education.

Second, the Commission would be remiss if it did not mention the issues of both possible additional funding and the need for secondary school reform necessary to bring about a significant change in student preparation. Although this report and its recommendations have concentrated on the educational facets of the remediation problem at the postsecondary level, any successful attack on the problem must involve a concerted effort of the colleges with the public schools. Further, funding may be needed to implement some of the recommendations proposed by this report. While efforts will be somewhat more costly in the short term, within a very few years, the State and its institutions should be rewarded by better-educated citizens and by lower costs for remediation as the need for remediation declines.

Finally, any thoughtful appraisal of remedial education inevitably calls forth fundamental questions about higher education itself: What is its nature and function? For whom is it designed? What constitutes college-level work? What balance must be maintained between community needs and being a community college? Are the educational models of the past inappropriate for the realities of today? These questions do not admit of easy answers, but they must have continuing discussion if the State and its postsecondary institutions are to keep their promise of education for the people of California.

# APPENDIX A

## METHODOLOGY OF THE STUDY

The idea for this study of remediation was first discussed in February 1981 by the Commission's Statutory Advisory Committee, consisting of representatives from the Community Colleges, the State University, and the University of California, as well as from the independent colleges and the State Department of Education. Commission staff then presented a prospectus for the study to the Commission's Policy Development Committee in March. In April, staff requested that executives in each of the segments appoint three representatives to an intersegmental Technical Advisory Committee to assist the development of the project, help design the survey instrument, and review and comment on the draft report. Staff recommended that two of the three appointees from each segment be campus representatives, preferably one from a mathematics or science discipline, and one from the field of reading or writing, who were knowledgeable not only about their own programs but also about remediation efforts throughout the segment. The third appointee was to be a systemwide representative with primary responsibility for basic skills or remedial activities. The Technical Advisory Committee members appointed by the segments, as well as others serving on the committee, are listed in the Preface.

The Technical Advisory Committee first met on May 29, 1981, to discuss the scope of the project, the definitional problems associated with remedial education, and the first draft of the survey instrument to be sent to the campuses. At this meeting English as a Second Language, hereafter referred to as ESL, was incorporated into the scope of the study at the suggestion of several committee members. The committee subsequently received ensuing drafts of the survey instrument over the summer for their comment and were regularly apprised of the study's progress by memo or by phone. Commission staff worked particularly closely with the systemwide representatives serving on the Technical Advisory Committee who forwarded the surveys to their campuses, encouraged the campuses to complete and forward the survey forms to the Commission, and arranged the site visits.

As soon as aggregated data from each segment were ready, Commission staff held separate meetings with Committee representatives from each segment to discuss the data from their campuses (dates of these meetings are noted later in this appendix). Additional meetings to discuss policy implications, conclusions, and recommendations were also held by segment--with the Community Colleges representatives on September 15, 1982, with those of the University of California on October 6, and with those of the State University on October 7. The entire Technical Advisory Committee reconvened on November 15, 1982, to review the final chapter of the report.

## DEVELOPMENT OF THE SURVEY INSTRUMENT

In order to obtain comparative data on the nature, extent, and costs of remedial courses and support services provided by public postsecondary institutions in California, Commission staff designed a mail survey to be sent to all general campuses in the University of California, to all 19 State University campuses, and to 106 two-year colleges in the California Community College system, excluding Los Angeles Metropolitan College with its campuses abroad.

During spring and summer 1981, Commission staff consulted with the Statutory Advisory Committee, the Technical Advisory Committee, a Commission staff committee, segmental staff, and other experts to develop the remediation survey instrument, which went through at least six revisions before reaching its final form. Due to the scope of the questions in the instrument, the Technical Advisory Committee suggested that the campuses use a committee approach to answer the questionnaire with each campus committee including such persons as faculty members in English and mathematics who teach or administer remedial courses or programs, directors of learning assistance centers, and campus budget personnel. The Commission staff included this suggestion in the directions for completing the survey, although the actual method of answering the questionnaire was left to the discretion of each campus. A larger proportion of four-year institutions employed the committee method than did the Community Colleges.

As can be seen from Appendix B, the survey instrument requested information from each campus in a number of areas including the types of remedial programs, courses, and support services available on the campus; the use of diagnostic testing and assessment services; the number of undergraduate courses, sections, and enrollments in remedial reading, writing, mathematics, and ESL over the past three academic years; where and by whom the remedial course sections are offered and whether or not they carry credit; whether special fees are charged for remedial courses; whether any cooperative arrangements for providing remediation exist between institutions; the costs of remedial courses and support services for the past three academic years; and, finally, whether the campus has evaluated its various remediation activities and, if so, some indication of the results.

Once the final draft version of the survey questionnaire was produced, the Statutory Advisory Committee arranged for a pre-test on one campus in each public segment, which took place in August 1981 at the University of California, Davis; California State University, Sacramento; and American River College. Follow-up interviews were held with personnel on each campus to determine how their experiences with the questionnaire might help in refining the survey instrument. The final version of the survey form was ready by October 1.

Following the advice of the Technical Advisory Committee to avoid the beginning of the school year, Commission staff forwarded copies of the questionnaire to each systemwide office on October 14 for transmittal to the campuses. The completed questionnaires were to be returned directly to the Commission by November 16. Staff anticipated receiving all the completed surveys by the end of November in order to devote December and January to data processing and analysis.

## RESPONSES TO THE SURVEY

### California State University

All 19 State University campuses responded to the survey, generally within the allotted time. Data problems were resolved with the assistance of either the Chancellor's Office or individual campuses. Commission staff discussed the first printouts of the aggregate data with the State University representatives to the Technical Advisory Committee on January 26, 1982.

### California Community Colleges

The Chancellor's Office for the Community Colleges delayed sending the questionnaire to the Community Colleges because information for the Course Classification System study was to be collected from the campuses at approximately the same time. After negotiation with the Chancellor's Office, Commission staff agreed that the survey could be sent to the Community Colleges the first week of January, with a return date of February 19, 1982. In return, the Chancellor assured the Commission of his support in obtaining complete and accurate responses from all the campuses. The Chancellor sent a follow-up letter on February 24 to those colleges which had not yet responded, and Chancellor's Office staff twice phoned those campuses who did not respond to the letter. By April 21, 101 of the 106 colleges had returned their surveys for a 95 percent response rate, leaving only Desert, Mount San Jacinto, Ohlone, Porterville, and the San Francisco Community College Centers as non-respondents.

Commission staff discussed the first run of the Community College data with representatives from that system serving on the Technical Advisory Committee on April 27, 1982. Commission staff then attempted to resolve all data omissions and inconsistencies with individual colleges, but because these efforts were not always initially successful, the last piece of information was entered into the Commission information system on June 1, 1982.

### University of California

Because the University had recently completed its own study of remedial education for the 1979-80 year, that data was provided to each campus by the Systemwide Office, and the campuses were advised to provide the additional information if it were readily available. The campuses found that they could not collect the data for the remaining years by the deadline set for the survey's return. As a result, while seven of the eight general University campuses returned their surveys, not one contained complete information, and few added anything to the 1979-80 data originally provided. Continuing consultation with Systemwide representatives over the course of the next few months, however, resulted in receipt of all of the requested information by late May 1982. The University members of the Technical Advisory Committee reviewed their segment's data on June 24, 1982.

Although the delays in response from both the University and the Community Colleges substantially altered the original timeline for the study, the average rate of response for the campus remediation survey stands at a statistically sound 98 percent.

## Site Visits

Recognizing that survey data are largely limited to the quantifiable aspects of a problem, which is both the strength and the weakness of the methodology, Commission staff visited 14 campuses and spoke to faculty, staff, administrators, and when possible, students involved in remedial activities in order to complement the survey findings by providing not only necessary statistics but insights into the human element of remediation for the Commission's report.

As indicated in the Preface, these site visits included seven Community Colleges, four State Universities, and three University of California campuses. These campuses were selected according to four major variables: (1) geographic location in the State; (2) urban/suburban/rural designation; (3) percent of minority enrollment; and (4) size of student body. Using the same interview schedule on every campus, between April 21 and May 6 Commission staff interviewed faculty who teach remedial courses in reading, writing, mathematics, and ESL; the director of the campus learning skills center; and campus administrators. The interviewers also visited campus facilities where discussions with staff directly involved with underprepared students and observation of the learning activities provided these students were frequently possible.

# APPENDIX B

# REMEDIATION STUDY CAMPUS SURVEY FORM

# REMEDIATION STUDY
# CAMPUS SURVEY

California Postsecondary Education Commission

# REMEDIATION STUDY CAMPUS SURVEY

Remediation has become a national issue; it affects the very heart of the educational endeavor. In order to help educators and policy makers alike understand the nature, extent, and cost of remediation efforts in California public postsecondary education, the Commission is undertaking this statewide survey of collegiate remedial activities.

The survey instrument was prepared with the assistance of a Technical Advisory Committee consisting of faculty and administrators from the California Community Colleges, the California State University and Colleges, the University of California, and the State Department of Education, and has been pretested in each of the three public postsecondary segments.

Because of the scope of the questions, the Technical Advisory Committee has recommended that campuses use a committee approach in answering the survey. Such a committee might include faculty in English and mathematics who teach or administer remedial courses; the director of the campus Learning Assistance Center and other staff involved in remedial support activities; and campus budget personnel. The actual means for answering the survey will, of course, be left to systemwide and campus discretion.

The definitions attached as page one of the survey must be followed in answering each question, although these definitions will exclude some components of remedial education. The general definition for remediation, for example, will exclude those "developmental" courses at the community college which students generally take for personal reasons rather than to prepare themselves for regular college courses. The focus on courses in reading, writing, and mathematics leaves out many courses in other disciplines which colleges may consider remedial and to which they may devote considerable resources. Information about activities which fall outside the prescribed definitions for this study may be appended (on separate sheets) by any campus so choosing.

The developers of the survey are also sensitive to the fact that many individuals do not consider English as a Second Language courses and programs to be remedial in nature, as ESL courses are frequently taken by individuals of high academic standing whose only need is for additional training in the English language. It is for this reason that ESL is treated throughout the survey as a separate category.

The accuracy of the information collected by this survey--and thus the ultimate worth of the findings--are dependent upon campus willingness to answer the survey. We believe the importance of the study justifies the time and effort involved. Thank you for your cooperation. Please send your completed survey by November 16 to:

California Postsecondary Education Commission
1020 - 12th Street
Sacramento, California 95814
ATTN: Janis Cox Coffey and Joan S. Sallee

# REMEDIATION STUDY
# CAMPUS SURVEY

## INSTRUCTION SHEET

In answering each of the survey questions, please refer frequently to the definitions which follow. For statewide comparative purposes, please use these definitions for your responses even though your campus may not consider such courses or services to be remedial.

Remediation: For this study, remediation is defined as courses and support services needed to overcome student deficiencies in reading, writing, and mathematics to a level at which students have a reasonable chance of succeeding in regular college courses, including vocational, technical, and professional courses.

For purposes of this study, please include remediation for undergraduate students only.

Course: A prescribed sequence of study, credit or noncredit, taught or supervised by a member of the faculty or professional staff. This definition also includes "mini" or short-term courses which last less than a quarter or semester.

Remedial courses should not be confused with prerequisite courses that are provided for students who are lacking background in specific academic areas other than the basic skills of computation, communication, and reading. Prerequisite courses are program specific while remedial courses are considered essential to successful participation in any academic program. Prerequisite courses should not be included in responding to this survey.

Do not include Extension courses or summer session courses except where specifically requested.

Remedial Courses in Reading: Courses which provide aid to students reading below twelfth-grade level, excluding courses in speed reading.

Remedial Courses in Writing: Courses below the transfer-level freshman composition course (often known as English 1A).

Remedial Courses in Mathematics: Courses in arithmetic, elementary algebra, plane geometry, and intermediate algebra, or courses whose content consists primarily of these subjects.

ESL: English courses taught to students whose primary language is not English in order to prepare them for regular college courses. This generic term includes the Limited English Proficient (L.E.P.), the Non-English Proficient (N.E.P.), Primary Language, Vocational English as a Second Language (V.E.S.L.), and English as a Foreign Language (E.F.L.).

Remedial Support Services: Services designed to assist students who are in need of remediation in reading, writing, and/or mathematics. Such services may include tutoring in basic skills, special advising, learning assistance, etc.

Special Programs: Programs such as EOP, EOPS, special transitional programs, women's reentry programs/centers, disabled student programs, veterans' programs, etc., which are designed for specific target populations. These programs should be included only if they contain a remedial component.

## REMEDIATION STUDY CAMPUS SURVEY

Institution ______________________________

Principal Respondent:

Name ______________________________

Title ______________________________

Address ______________________________

Phone ______________________________

If a committee or several individuals participate in answering this survey, please indicate all names and titles on the facing page.

*REMEDIAL ACTIVITIES*

1. Which of the following types of remedial activities, according to the definitions used for this study, does your campus provide for undergraduate students? (Please check as many as apply.)

☐ Remedial/Basic Skills Courses in reading, writing, and/or mathematics

☐ Remedial Support Services

☐ Special Programs (Please list all such programs on your campus.)

______________________________

______________________________

______________________________

☐ ESL Courses and Services

☐ None of the above (If none of the above, thank you for your cooperation. Please turn to the last page for mailing instructions.)

If you have checked any courses, services, or programs, please continue.

## *DIAGNOSTIC TESTING AND ASSESSMENT SERVICES*

2. Does your campus offer diagnostic testing or assessment services in reading, writing, mathematics, and/or ESL?

☐ No (If no, please skip to Question 3.)

☐ Yes (If yes, please answer Questions 2a and 2b.)

2a. Are these diagnostic tests or other assessment services voluntary or mandatory?

| | Voluntary | Mandatory (systemwide, campuswide, or for course entry) |
|---|---|---|
| Reading | ☐ | ☐ |
| Writing | ☐ | ☐ |
| Mathematics | ☐ | ☐ |
| ESL | ☐ | ☐ |

2b. If a diagnostic test in reading is used on your campus, what percentage of students tested in reading during academic year 1980-81 scored at the following grade levels?

Below Grade 6 _____%

Grades 6 to 9 _____%

Grades 10 and 11 _____%

3. Please rank the following methods used on your campus in placing students into remedial courses by subject area. (Rank "0" for any methods not used. Rank remaining methods beginning with "1" for most frequently used, "2" for next most frequently used, and so forth.)

| | Reading | Writing | Mathematics | ESL |
|---|---|---|---|---|
| Diagnostic testing or assessment | _____ | _____ | _____ | _____ |
| Student self-referral | _____ | _____ | _____ | _____ |
| Previous educational record | _____ | _____ | _____ | _____ |
| Faculty referral | _____ | _____ | _____ | _____ |
| Staff referral | _____ | _____ | _____ | _____ |
| Other (Please specify.) | _____ | _____ | _____ | _____ |

## *REMEDIAL COURSES*

For purposes of this study, a course is defined as a prescribed sequence of study, credit or non-credit, taught or supervised by a member of the faculty or professional staff. This definition also includes "mini" or short-term courses which last less than a quarter or semester.

4. Does your institution currently offer courses which could be classified as remedial, according to the definitions used for this study?

☐ No (If no, please skip to Question 16.)

☐ Yes (If yes, please continue.)

5. In what areas are these remedial courses offered?

☐ Reading

☐ Writing

☐ Mathematics

☐ ESL

☐ Other (Please specify.) ________________________________

6. Does your institution follow the progress toward degree of those students who have taken remedial courses?

☐ No

☐ Yes

7. What percentage of those students in your institution diagnosed as being in need of remediation could not be accommodated in remedial courses during academic year 1980-81?

Reading ________%

Writing ________%

Mathematics ________%

ESL ________%

## ACADEMIC YEAR COURSES

8. Please indicate in the tables which follow both the total number of undergraduate courses, sections, and headcount enrollments (at first census) offered by your institution in each of the subject matter areas for academic years 1978-79, 1979-80, and 1980-81 and the number of remedial courses, sections, and headcount enrollments (at first census) in the same areas for the same years. Multiple sections of the same course should be counted separately. Laboratories, workshops, discussion groups, etc., that are part of a course should not be counted separately. Do not include Extension offerings and summer session courses.

### ENGLISH

| | | Academic Year 1978-79 | Academic Year 1979-80 | Academic Year 1980-81 |
|---|---|---|---|---|
| All Courses in English (non-remedial and remedial) | Number of Courses | ______ | ______ | ______ |
| | Number of Sections | ______ | ______ | ______ |
| | Number of Students Enrolled | ______ | ______ | ______ |
| Remedial Courses in Reading and Writing. Remedial courses in reading provide aid to students reading below twelfth-grade level but do not include courses in speed reading. Remedial courses in writing are courses below the transfer-level freshman composition course (often known as English 1A). | Number of Courses | ______ | ______ | ______ |
| | Number of Sections | ______ | ______ | ______ |
| | Number of Students Enrolled | ______ | ______ | ______ |

## ESL

**ESL Courses.** English courses taught to students whose primary language is not English in order to prepare them for regular college courses. This generic term includes the Limited English Proficient (L.E.P.), the Non-English Proficient (N.E.P.), Primary Language, Vocational English as a Second Language (V.E.S.L.), and English as a Foreign Language (E.F.L.).

| | Academic Year 1978-79 | Academic Year 1979-80 | Academic Year 1980-81 |
|---|---|---|---|
| Number of Courses | | | |
| Number of Sections | | | |
| Number of Students Enrolled | | | |

## MATHEMATICS

**All Courses in Mathematics** (non-remedial and remedial)

| | Academic Year 1978-79 | Academic Year 1979-80 | Academic Year 1980-81 |
|---|---|---|---|
| Number of Courses | | | |
| Number of Sections | | | |
| Number of Students Enrolled | | | |

**Remedial Courses in Mathematics.** Courses in arithmetic, elementary algebra, plane geometry, and intermediate algebra, or courses whose content consists primarily of these subjects.

| | Academic Year 1978-79 | Academic Year 1979-80 | Academic Year 1980-81 |
|---|---|---|---|
| Number of Courses | | | |
| Number of Sections | | | |
| Number of Students Enrolled | | | |

## SUMMER SESSION COURSES

9. If your institution offers remedial courses during summer sessions, please indicate total number of courses and number of remedial courses as in preceding question for summer sessions only.

| | Summer 1979 | Summer 1980 | Summer 1981 |
|---|---|---|---|
| **All Courses in Reading, Writing, Mathematics, and ESL** | | | |
| Number of Courses | ________ | ________ | ________ |
| Number of Sections | ________ | ________ | ________ |
| Number of Students Enrolled | ________ | ________ | ________ |
| **Remedial Courses in Reading, Writing, Mathematics, and ESL** | | | |
| Number of Courses | ________ | ________ | ________ |
| Number of Sections | ________ | ________ | ________ |
| Number of Students Enrolled | ________ | ________ | ________ |

## COURSE CHARACTERISTICS

10. What percentage of remedial course sections were offered during academic year 1980-81 by the following types of administrative units on your campus?

| | English or Mathematics Department | Other Academic Departments | Learning Assistance/ Skills Centers | Other Units | Total |
|---|---|---|---|---|---|
| Reading | ______% | ______% | ______% | ______% | 100% |
| Writing | ______% | ______% | ______% | ______% | 100% |
| Mathematics | ______% | ______% | ______% | ______% | 100% |
| ESL | ______% | ______% | ______% | ______% | 100% |

11. What percentage of remedial course sections were taught in your institution during academic year 1980-81 by the following types of instructors:

| | Full-Time Faculty | Part-Time Faculty | Teaching Assistants | Full-Time Professional Staff (Non-Faculty) | Part-Time Professional Staff (Non-Faculty) | Other (Peer Tutors and Other Paraprofessionals) | Total |
|---|---|---|---|---|---|---|---|
| Reading | _____% | _____% | _____% | _____% | _____% | _____% | 100% |
| Writing | _____% | _____% | _____% | _____% | _____% | _____% | 100% |
| Mathematics | _____% | _____% | _____% | _____% | _____% | _____% | 100% |
| ESL | _____% | _____% | _____% | _____% | _____% | _____% | 100% |

12. What percentage of your remedial courses in the following areas were noncredit and what percent carried credit during academic year 1980-81?

| | Noncredit | Credit (full or partial) | Total |
|---|---|---|---|
| Reading | _________% | _________% | 100% |
| Writing | _________% | _________% | 100% |
| Mathematics | _________% | _________% | 100% |
| ESL | _________% | _________% | 100% |

12a. Of those remedial courses carrying credit, please indicate the percent distribution by type of credit.

| | Nondegree or Student Workload Credit | AA Degree or Certificate Credit | Transfer or Baccalaureate Degree Credit | Total |
|---|---|---|---|---|
| Reading | ________% | ________% | ________% | 100% |
| Writing | ________% | ________% | ________% | 100% |
| Mathematics | ________% | ________% | ________% | 100% |
| ESL | ________% | ________% | ________% | 100% |

13. What percentage of your remedial courses during academic year 1980-81 were at the lower division level and what percentage at the upper division level?

| | Lower Division | Upper Division | Total |
|---|---|---|---|
| Reading | ____% | ____% | 100% |
| Writing | ____% | ____% | 100% |
| Mathematics | ____% | ____% | 100% |
| ESL | ____% | ____% | 100% |

14. Is a special fee, above and beyond fees charged to all students, charged for any remedial course in the following areas?

| | No | Yes |
|---|---|---|
| Reading | ☐ | ☐ |
| Writing | ☐ | ☐ |
| Mathematics | ☐ | ☐ |
| ESL | ☐ | ☐ |

15. Does your campus have a cooperative arrangement with any other postsecondary institution to provide remedial courses for your students?

☐ No

☐ Yes (If yes, please explain.) ____________________

____________________

____________________

## *REMEDIAL SUPPORT SERVICES*

16. Please check the remedial support services your campus currently provides for students in need of remediation.

- ☐ Assessment or diagnostic testing
- ☐ Tutoring in basic skills
- ☐ Workshops in basic skills
- ☐ Study skills workshops
- ☐ Learning laboratories
- ☐ Special academic advising
- ☐ Special counseling
- ☐ Other (Please specify.) ______________________________

17. What campus units are *primarily* responsible for providing these remedial support services? (Check one for each service):

|  | Learning Assistance/ Skills Centers | Special Programs* | Academic Departments | Other Units |
|---|---|---|---|---|
| Assessment or diagnostic testing | ☐ | ☐ | ☐ | ☐ |
| Tutoring in basic skills | ☐ | ☐ | ☐ | ☐ |
| Workshops in basic skills | ☐ | ☐ | ☐ | ☐ |
| Study skills workshops | ☐ | ☐ | ☐ | ☐ |
| Learning laboratories | ☐ | ☐ | ☐ | ☐ |
| Special academic advising | ☐ | ☐ | ☐ | ☐ |
| Special counseling | ☐ | ☐ | ☐ | ☐ |
| Other (as specified) | ☐ | ☐ | ☐ | ☐ |

*Special programs include EOP, EOPS, special transitional programs, women's reentry programs/centers, disabled student programs, veterans' programs, etc., *if* they contain a remedial component.

## COSTS

18. Please indicate the amount of your institutional budget, excluding capital outlay, expended by your institution on remedial courses and remedial support services for academic years 1978-79, 1979-80, and 1980-81. Include salaries, benefits, administrative costs, materials, and equipment charges in your figures.

| | Academic Year 1978-79 | Academic Year 1979-80 | Academic Year 1980-81 |
|---|---|---|---|
| Total Institutional Budget (operating budget exclusive of capital outlay) | $ ________ | $ ________ | $ ________ |
| Remedial Courses | | | |
| Reading | $ ________ | $ ________ | $ ________ |
| Writing | $ ________ | $ ________ | $ ________ |
| Mathematics | $ ________ | $ ________ | $ ________ |
| ESL | $ ________ | $ ________ | $ ________ |
| Subtotal | $ ________ | $ ________ | $ ________* |
| Remedial Support Services | $ ________ | $ ________ | $ ________** |
| Total Remediation Expenditures | $ ________ | $ ________ | $ ________*** |

(Asterisked figures should agree with figures in Question 13a.)

18a. Please indicate the funding sources for your expenditures on remediation activities during academic year 1980-81. (Community Colleges should include local property tax revenue under State category.)

| Sources of Funding | Remedial Courses | Remedial Support Services | Total |
|---|---|---|---|
| Federal | $_______ | $_______ | $_______ |
| State | $_______ | $_______ | $_______ |
| Special/Institutional | $_______ | $_______ | $_______ |
| Student Fees | $_______ | $_______ | $_______ |
| Direct Assessment (class fees) | $_______ | $_______ | $_______ |
| Grants | $_______ | $_______ | $_______ |
| Other | $_______ | $_______ | $_______ |
| Total | $_______* | $_______** | $_______*** |

(Asterisked figures should agree with figures in Question 18.)

## *EVALUATION*

19. Does your institution evaluate the following remediation activities?

| | No | Yes |
|---|---|---|
| Remedial Courses in Reading | ☐ | ☐ |
| Remedial Courses in Writing | ☐ | ☐ |
| Remedial Courses in Mathematics | ☐ | ☐ |
| ESL Courses | ☐ | ☐ |
| Remedial Support Services | ☐ | ☐ |
| Special Programs | ☐ | ☐ |

19a. If yes, briefly describe the evaluation studies and what the studies have shown regarding remediation efforts on your campus.

20. Is remediation compatible with your institutional mission? Please comment.

Other comments and observations.

Thank you for your cooperation. Please send your completed survey to:

California Postsecondary Education Commission
1020 - 12th Street
Sacramento, California 95814
ATTN: Janis Cox Coffey and Joan S. Sallee

# APPENDIX C

## CALIFORNIA STATE UNIVERSITY

## GRADUATION REQUIREMENT FOR COMPETENCY IN WRITING

Note: The information in this appendix is adapted from "CSU English Council Survey--Spring 1982: Upper Division Writing Proficiency Requirement."

| Campus | Examination | Kind of Examination | Name of Machine-Scored Test | Fee | Passing Score | Percent Passing | Who Scores Essays? How Compensated? |
|---|---|---|---|---|---|---|---|
| Bakersfield | Option I | 2 90-minute essays and machine-scored examination | College English Placement Test | $10.00 | 65% | 60% | Trained faculty $10.00/hr |
| Chico | Required | 1 1-hr. essay | None | Yes | | | Faculty/ pay not yet determined. |
| Dominguez Hills | Option I | 1 1-hr essay, comparison and contrast question | None | $10.00 | | 65%-70% | Univ. Comp. Committee $100/day |
| Fresno | Option I | 2 45-min. essays and machine scored examination | College English Placement Test and campus spelling and punc. test | $ 7.50 | 70% (obj.) + min. 17 on essays; 82% (obj.) + min. 14 on essays | 43%-45% | Faculty from many depts. $80 for 4-5 hrs. |
| Fullerton | Required | 2 essays (20 and 40 minutes) and machine-scored test | Long Beach Grad. Wtg. Prof. Exam | $15.00 | 16 of 24 pts. or 15 with median or better score on machine-scored test | 70% | Trained faculty $110.00/day |
| Hayward | | | | | | | |
| Humboldt | Option I | 2 45-minute essays | No | $10.00 | 14 out of 24 points | 75% | Trained faculty from many depts. $120.00 |

| Course | Description of Courses(s) | Amount of Writing | Enrollment | Faculty Development Provided | ESL Program/ Problem | Comments |
|---|---|---|---|---|---|---|
| Option II | English (several courses) | 10 essays, reports, etc. per quarter | 20 | None | None | Student may take the exam or the course. Student may not take test more than twice. |
| Required | Each dept. will develop its own course | | | | | Campus plan: Students must pass test to become eligible for writing course in their major. Pilot test: Spring '82. Program will start Fall '82. |
| Option II | English Adv. Comp.; Hist, Music, Nat. Sci., + Wtg. Adjunct Courses | | | Seminar on writ. in disc. to fac. teach. approved courses. Also score common essay. | | Student may not take test more than twice. Courses approved (not instructors). "Comp. Cooperative": one essay from all sections scored holistically by group. Scores used by instructors as they see fit. Do not accept another campus' certification. |
| Option I | 33 courses approved; 17 in English + others in many depts. | 5 1,000-word essays. Conferences between assignments mandatory. | 25 recommended | None | Many foreign students meet req. taking Adv. Comp. for foreign students. | Students who fail test (about 60%) take one of the courses. Univ. Writing Committee evaluates and approves upper division courses with writing component. |
| Required | Each dept. submits course for approval. (A few use English 301) | Varies, but course must include comp. instruction and wtg. assignments relevant to discipline. | Varies | No, not at present | Foreign visa students allowed more time for test and papers read by specially trained readers. | Accept certification from other campuses for similar exam and/or course, but students must do both. Students may take exam before or after course. |
| Options II and III | II: various depts: 2-unit adjunct course. III: Engl. 103-J (4 units) may be elected by students who fail exam. | Lots and of various types | 15 for 2-unit adjuncts; 25 for Eng. 103-J | (II.)Non-Eng. faculty must take grad. sem. on teach. writ. | 10 is passing score for students leaving US after grad. | May change to exam only. Counsel those who fail. Do not accept certification from other campuses. |

| Campus | Examination | Kind of Examination | Name of Machine-Scored Test | Fee | Passing Score | Percent Passing | Who Scores Essays? How Compensated? |
|---|---|---|---|---|---|---|---|
| Long Beach | Required | 2 essays (20 and 40 minutes) and machine-scored test | CSULB Grad. Wtg. Prof. Exam | $15.00 | 15 out of 24 on essays and 35 out of 50 on machine-scored test | 68% | Trained Faculty from all schools<br>$110.00/day |
| Los Angeles | | | | | | | |
| Northridge | Required | 1 1-hr essay | None | $10.00 | 8 out of 12 (6's fail; 7's scored 6 or 8 after 3rd reading.) | 80% | Faculty from all depts.<br>$110.00/day |
| Pomona | Required (Grad. Wtg. Test) | 1 1-hr. essay and multiple-choice test | Missouri College English Test | $15.00 | 7 on essay (out of 12); 44 out of 90 on Missouri Test | 65% | Trained Faculty from all depts.<br>$15.00/hr |
| Sacramento | Required | 1 2½-hr essay | No | $10.00 | 6 pt. test: 1, 2, 3 = pass; 4, 5, 6 = fail | 60% | Faculty from all depts.<br>$12.50/hr. |
| San Bernardino | Option I | 2 essays (20 and 40 minutes) and machine-scored test | Long Beach Grad. Wtg. Prof. Exam | $10.00 | 19, 40 | 35% | Exam given through Test Center |
| San Diego | Option I | 1 1-hr. essay | No | $ 5.00 | 4 on 6-point scale | No tests given as of 10/81 | Selected fac/ pay not yet determined |

| Course | Description of Courses(s) | Amount of Writing | Enrollment | Faculty Development Provided | ESL Program/ Problem | Comments |
|---|---|---|---|---|---|---|
| | | | | | Use a single standard for all students. Special readers. Special testing w/ relaxed time limits. | Interim appeals policy until permanent one developed. |
| | | | | | ESL papers scored by specially trained readers using ETS procedures. | Counseling, workshops, etc. available to students who fail. Advisory Board subcommittee hears appeals. Accept certif. from other campuses with essay exam required. |
| | | | | Vol. Writing in the Disc. seminars (initially supported by Ch. Office Acad. Prog.) | 80% failure rate. Trying special test w/ relaxed time limit. Papers scored by ESL sensitive reader. | Program to counsel those who fail being developed. Test preparation booklet available to students. |
| For those who fail examination | English 119: Exam (free) given at end of course. | | | | ESL papers scored by specially trained readers. | Accept certification from campuses with similar exam. |
| Option II (primary method) | English (see comments). All 495 courses. | (6,000 wds. total; common final in all 495s) | 20 | Yes, through an NEH grant. | No special program for ESL students. | In the Spring the Schools of Admin., Nat. Sci., Soc. Sci., and Hum. will be offering 495 courses. |
| Option II | English + other dept.: several upper division courses offered | | 25 | Not yet. | Specially trained readers; planning special course. | Option III: May use department certification with committee approval. Will accept certification from other campuses. |

| Campus | Examination | Kind of Examination | Name of Machine-Scored Test | Fee | Passing Score | Percent Passing | Who Scores Essays? How Compensated? |
|---|---|---|---|---|---|---|---|
| San Francisco | Option I | 1 1-hr. essay | No | $ 6.50 | 4/3/4 by 3 readers on 6 pt. scale | 60% | Part-time comp. staff/ $10.00/hr. |
| San Jose | Option I | 1 1-hr. essay and 1 1-hr. machine-scored test | Test developed on campus | $15.00 | Varies, depending on norm samples from u.d. wtg. workshop courses | 25% - 35% but varies | Faculty from many depts. $125.00 |
| San Luis Obispo | Option I | 1 1-hr. essay | None | $10.00 | 4 on 6-pt. scale (average of 2 scores) | 68% | Interdisc. grp. of fac. $225/2 days |
| Sonoma | Option I (WEPT) | 1 2-hr. essay | None | None yet | Credit/ No Credit | 80%-86% | Primarily Eng. faculty for no pay |
| Stanislaus | None | | | | | | |

| Course | Description of Courses(s) | Amount of Writing | Enrollment | Faculty Development Provided | ESL Program/ Problem | Comments |
|---|---|---|---|---|---|---|
| Option II | English (Jr. level course) | 8 essays and add'l writing | 25 | To part-time staff. | Req. to pass ESL equiv. to jr. comp. class. | Counsel failing students. Requirement not enforced at Jr. level, at grad. point only. Accept other campuses' equiv. tests or Eng. Dept. courses. |
| Option II | Writing workshops many depts. Pre-req.: 1 yr. lower division comp. | 8,000 words per/semester<br>common essay final scored holistically by all instructors. | 27 | Some. | Some foreign student sections of the Writing Workshop. | The exam is a high-level waiver for superior students. Accept. certif. from other campuses. |
| Options II and III | English: II: Jr.-level comp.<br>III: Jr.-level lit. with comp. | Weekly essays + essay exam<br>3+ essays out-of-class, several exams | 28<br>40 (but most sections smaller) | No | ESL papers are read by faculty with experience in ESL. Also some allowed extra time. | Counseling for failing students. Accept certif. from campuses with similar testing programs. 65% choose I; 28% II; 7% III. |
| Option II | English 375 | 6-8 essays | 25 | No | Essays read for overall mastery. | May require pre-375 course for those who fail WEPT. English faculty score essays and counsel those who fail as part of their reg. duties. Accept similar course or test from other campuses. |
| Required | Eng. 3000 (1 unit, 1st 4 wks.); NSCI or SSCI 3999 (2 units last 4 wks.) | 4 essays in 1st 4 wks (2 and 4 graded holistically by comp. faculty | 50 in 3000<br>25 in 3999 | No | No special program but readers take ESL problems into consideration when scoring 2 and 4 holistically. | Students who write 2 and 4 with scores higher than 10 are excused from attending 3999. Accept certif. from other campuses if course included. |

# REFERENCES

Among the following references, those that may be of greatest value in providing some context to anyone new to the problem of student underpreparedness and remediation are asterisked. In addition to the readings noted here, the Commission's research also made use of numerous journal articles, particularly those in the *Journal of Developmental and Remedial Education*, newspaper commentary, campus and systemwide reports and newsletters, governing board minutes, and publications issued by professional associations and national commissions.

*Academic Senates of the California Community Colleges, The California State University, and the University of California. "Statements on Preparation in English and Mathematics: Competencies Expected of Entering Freshmen: Remedial and Baccalaureate-Level Course Work." June 4, 1982 Draft.

Akst, Geoffrey, ed. *Improving Mathematics Skills*. *New Directions for College Learning Assistance* 6. San Francisco: Jossey-Bass, 1981.

Algier, Ann S., and Algier, Keith W., eds. *Improving Reading and Study Skills*. *New Directions for College Learning Assistance* 8. San Francisco: Jossey-Bass, 1982.

Astin, Alexander W., and others. *Minorities in American Higher Education: Recent Trends, Current Prospects, and Recommendations*. San Francisco: Jossey-Bass, 1982.

Bailey, Stephen K. "Planning to Improve Quality: The Case for Optimism." Address to Leadership Seminar for State Academic Officers, Danvers, Massachusetts. August 15, 1979.

Blum, Mark E., and Spangehl, Stephen D. "Developing Education Programs for the High-Risk Secondary School and College Student." *ERIC/CUE Urban Diversity Series* No. 80. New York: Columbia University, 1982.

Bolker, Joan L. "We Are All Remedial Cases." Paper submitted for publication, 1981.

Boone, Janice, and others. *Report to the Board of Higher Education on the Results of the New Jersey College Basic Skills Placement Testing, May 1, 1978 - September 28, 1978*. Trenton: New Jersey State Department of Higher Education, 1978.

Brown, G. Wayne (executive director, Tennessee Higher Education Commission), quoted by Malcolm G. Scully, "Entrance Rules Tightened at Some Public Institutions." *The Chronicle of Higher Education* 23:15 (December 9, 1981), 1, 13.

*Brubacher, John S., and Rudy, Willis. *Higher Education in Transition: A History of American Colleges and Universities, 1639-1976*. New York: Harper and Row, 1976.

California Postsecondary Education Commission. *The Challenges Ahead: A Planning Agenda for California Postsecondary Education, 1982-1987*. Commission Report 81-25. Sacramento: The Commission, November 1981.

--. "Proposals for Changing the Undergraduate Admission Requirements of the University of California and the California State University." Information Item, December 14, 1981.

--. "Coordinating Efforts to Increase the Quality and Quantity of Public School Teachers." Information Item. Policy Development Committee meeting, June 21, 1982.

*Carnegie Foundation for the Advancement of Teaching. *Missions of the College Curriculum*. San Francisco: Jossey-Bass, 1977.

*Chancellor's Advisory Committee on Basic Skills. *A Report to the Chancellor of the California Community Colleges*. Sacramento: Chancellor's Office, California Community Colleges, October 1979.

Chausow, Hymen M. "Remedial Education: A Position Paper." Chicago: 1979.

*The Chronicle of Higher Education* 23:24 (February 24, 1982) 2.

*The Chronicle of Higher Education* 24:18 (June 30, 1982) 11.

*Clowes, Darrel A. "More Than a Definitional Problem: Remedial, Compensatory, and Developmental Education." *Journal of Developmental and Remedial Education*, 4:1 (Fall 1980) 8-10.

Coalition for Intermediate and Secondary Education Improvement. *Report*. Sacramento: September 1982.

Cohen, Arthur. Letter to the Editor. *The Chronicle of Higher Education*, July 6, 1981, p. 18.

*Cohen, Arthur M., and Brawer, Florence B. *The American Community College*. San Francisco: Jossey-Bass, 1982.

Colorado Commission on Higher Education. "A Working Paper on College Expectations/Remedial Education at Colorado's Secondary and Postsecondary Institutions." October 1982.

Crawford, June Justice. "The Need for Basic Skills in Colleges and Universities." Paper presented at the meeting of the International Reading Association, Atlanta, Georgia. April 26, 1979.

Crew, Louie. "Testing Basics: Battling the Windmills in the University System of Georgia." Paper presented at the annual meeting of the College English Association, Savannah, Georgia. March 1979.

*Cross, K. Patricia. *Accent on Learning: Improving Instruction and Reshaping the Curriculum*. San Francisco: Jossey-Bass, 1976.

--. "Community Colleges on the Plateau." *Journal of Higher Education* 52:2 (1981) 113-123.

*Enright, Gwyn, and Kerstiens, Gene. "The Learning Center: Toward an Expanded Role," in Oscar T. Lenning and Robbie L. Nayman, eds., *New Roles for Learning Assistance*. *New Directions for College Learning Assistance* 2. San Francisco: Jossey-Bass, 1980.

Feldmesser, Robert A. "Minimum Competence as an Individual Right." Paper presented at the Conference on Minimum Competency Achievement Testing of the American Educational Research Association, Washington, D.C. October 12-14, 1978.

Forbes, Roy H., and Gisi, Lynn Grover. *Information Society: Will Our High School Graduates Be Ready*? Denver: Education Commission of the States, 1982.

Friedlander, Jack. "Developmental Mathematics." *ERIC Junior College Resource Review*. Washington, D.C.: National Institute of Education, 1979.

Good, Carter V., ed. *Dictionary of Education*. New York: McGraw-Hill, 1973.

Harman, David. "Illiteracy: An Overview." *Harvard Educational Review* 40:2 (May 1970) 226-243.

Hartle, Terry W.; Baratz, Joan C.; and Crafa, Diane M. "Standard Setting: Do the States Care?" *Change*, 11:8 (November/December 1979) 55-58.

Hechinger, Fred M. "Concern About the Teaching of Teachers." *San Francisco Chronicle*, June 19, 1981, pp. 24-25.

Hills, John R. "Proficiency Testing: Implications for Higher Education." Atlanta: Southern Regional Education Board, 1977.

*Hunter, Carman St. John, and Harman, David. Adult Illiteracy in the United States: A Report to the Ford Foundation. New York: McGraw-Hill, 1979.

Hymowitz, Carol. "Employers Take Over Where Schools Failed to Teach the Basics." The Wall Street Journal, January 22, 1981, pp. 1, 14.

"Illiteracy in America: A Symposium." Condensed transcript of a four-hour discussion. Harvard Educational Review 40:2 (May 1970) 264-276.

*Keisling, Phil. "The Class War We Can't Afford to Lose." The Washington Monthly, June 1982, pp. 28-37.

Knefelkamp, Lee; Widick, Carol; and Parker, Clyde A., eds. Applying New Developmental Findings. New Directions for Student Services, 4. San Francisco: Jossey-Bass, 1978.

Kraetsch, Gayla A. "What's New in Literacy Legislation." Change 12:3 (April 1980) 44-45.

Kronick, Doreen. Social Development of Learning Disabled Persons. San Francisco: Jossey-Bass, 1981.

Lauridsen, Kurt V., ed. Examining the Scope of Learning Centers. New Directions for College Learning Assistance 1. San Francisco: Jossey-Bass, 1980.

Lenning, Oscar T., and Nayman, Robbie L., eds. New Roles for Learning Assistance. New Directions for College Learning Assistance 2. San Francisco: Jossey-Bass, 1980.

*Levine, Arthur. Handbook on Undergraduate Curriculum. San Francisco: Jossey-Bass, 1978.

Levine, Kenneth. "Functional Literacy: Fond Illusions and False Economies." Harvard Educational Review 52:3 (August 1982) 249-266.

Lockridge, Kenneth A. Literacy in Colonial New England: An Enquiry Into the Social Context of Literacy in the Early Modern West. New York: Norton, 1974.

Lutz, William D. "Statewide Testing in New Jersey." Paper presented at the annual meeting of the Modern Language Association, San Francisco. December 27-30, 1979.

Magarrell, Jack. "Colleges Offered 15 Percent More Courses This Year, Survey Finds; Remedial Classes Increase 22 Percent." The Chronicle of Higher Education, June 1, 1981, pp. 1, 8.

Majetic, Richard. Telephone conversation with Joan Sallee, June 30, 1982.

*Master Plan Survey Team. *A Master Plan for Higher Education in California, 1960-1975*. Sacramento: California State Department of Education, 1960.

Mathematical Association of America. *Focus* 2:1 (January-February 1982).

Matthews, Dorothy (ed.). *Remedial English*. *Illinois English Bulletin* 67:2 (Winter 1980).

Mattison, Robert. Telephone conversation with Joan Sallee, August 5, 1982.

*Maxwell, Martha. *Improving Student Learning Skills: A Comprehensive Guide to Successful Practices and Programs for Increasing the Performance of Underprepared Students*. San Francisco: Jossey-Bass, 1979.

*McCabe, Robert H. "Now Is the Time to Reform the American Community College." *Community and Junior College Journal*, 51:8 (May 1981) 6-10.

*--. "The Educational Reform at Miami-Dade Community College Is Resulting in Improved Student Performance." Miami-Dade Community College, March 1981.

McCuen, John T., and others. *Report of the Commission on Academic Standards*. Los Angeles: Los Angeles Community College District, 1978.

McCurdy, Jack. "California Professors Recommend Program to Improve Skills of College-Bound Students." *The Chronicle of Higher Education* 23:14 (December 2, 1981) 6.

Meeth, L. Richard, and Pitcher, Robert W. *Overcoming Underachievement in College*. Arlington: Studies in Higher Education, 1980.

Minter, John. Telephone conversation with Joan Sallee, July 6, 1982.

*Myers, Michael M. "Preparing Students for College: The Need for Quality." *Issues in Higher Education*. Atlanta: Southern Regional Education Board, 1982.

National Education Association. "Nationwide Teacher Opinion Poll, 1980." *NEA Research Memo*. Washington, D.C.: The Association, September 1980.

Ohio Board of Regents and State Board of Education. *Report: Advisory Commission on Articulation Between Secondary Education and Ohio Colleges*, April 1981.

*Peng, Samuel S.; Fetters, William B.; and Kolstad, Andrew J. "High School and Beyond: A National Longitudinal Study for the 1980s." Washington, D.C.: National Center for Education Statistics, 1981.

Perry, Roger H., and Wentz, Robert E. "High School-University Partnerships: Inevitable Pitfalls and Strategies for Success." *Educational Record* 62:4 (Fall 1981) 50-53.

*The Philadelphia Inquirer*. July 11, 1982.

The Pritchard Committee on Higher Education in Kentucky's Future. *In Pursuit of Excellence*. Frankfort: Council on Higher Education, 1981.

*Ravitch, Diane. "The Schools We Deserve." *The New Republic*, April 18, 1981, pp. 23-27.

Reese, Jack, quoted by Malcolm G. Scully, "Entrance Rules Tightened at Some Public Institutions." *The Chronicle of Higher Education* 23:15 (December 9, 1981), 13.

Reisman, David. *On Higher Education: The Academic Enterprise in an Era of Rising Student Consumerism*. San Francisco: Jossey-Bass, 1980.

Richardson, Richard C., Jr.; Martens, Kathryn J.; and Fisk, Elizabeth C. "Functional Literacy in the College Setting." *AAHE-ERIC/Higher Education Research Report* No. 3. Washington, D.C.: AAHE, 1981.

*Roueche, John E. *Salvage, Redirection, or Custody? Remedial Education in the Community Junior College*. ERIC Clearinghouse for Junior College Information. Washington, D.C.: American Association of Junior Colleges, 1968.

*Roueche, John E., ed. *Increasing Basic Skills by Developmental Studies*. *New Directions for Higher Education* 20. San Francisco: Jossey-Bass, 1977.

*Roueche, John E. in collaboration with John C. Pitman. *A Modest Proposal: Students Can Learn*. San Francisco: Jossey-Bass, 1972.

Roueche, John E., and Armes, Nancy R. "Basic Skills Education: Point-Counterpoint." *Community and Junior College Journal* 50:6 (March 1980) 21-24.

*Roueche, John E., and Kirk, R. Wade. *Catching Up: Remedial Education*. San Francisco: Jossey-Bass, 1973.

Roueche, John E.; Moore, William, Jr.; and Spann, Milton G., Jr. *A Report to the Louisiana Board of Regents Regarding Developmental Education Programs in Louisiana Public Higher Education*. February 1980, pp. 1-19.

*Roueche, John E., and Roueche, Suanne D. *Developmental Education: A Primer for Program Development and Evaluation*. Atlanta: Southern Regional Education Board, 1977.

*Roueche, John E., and Snow, Jerry J. *Overcoming Learning Problems*. San Francisco: Jossey-Bass, 1978.

Roueche, Suanne D., and Hudgens, Gayle A. "A Report on Theory and Method for the Study of Literacy Development in Community Colleges." Washington, D.C.: National Institute of Education, 1979.

*Rudolph, Frederick. *Curriculum: A History of the American Undergraduate Course of Study Since 1636*. San Francisco: Jossey-Bass, 1977.

Sampson, Olive C. *Remedial Education*. London: Routledge and Kegan Paul, 1975.

Sanders, Marion. *Clinical Assessment of Learning Problems: Model, Process, and Remedial Planning*. Boston: Allyn and Bacon, 1979.

Scherini, Rose. "High Schools Today: Overview and Implications for the University of California, Berkeley." Berkeley: Office of Student Research, University of California, 1981.

Schlechty, Phillip, and Vance, Victor S., quoted by Fred M. Hechinger. "The Decline in Teacher Status." *San Francisco Examiner and Chronicle*, August 8, 1982.

Sells, Lucy. Information compiled from *University and College Opportunities Network FACT SHEET*. Sacramento: Department of Education, 1982.

*Shaughnessy, Mina P. *Errors and Expectations: A Guide for the Teacher of Basic Writing*. New York: Oxford University Press, 1977.

Sheldon, M. Stephen. *Statewide Longitudinal Study, 1978-1981, Final Report*. Los Angeles: Pierce College, undated.

Sleeter, Christine. "An Overview of Sixteen Research Projects Now Under Way on the American Secondary School." *Education Times*. June 7, 1982.

Snow, Jerry J. "Counseling the High-Risk Student," in John E. Roueche, ed., *Increasing Basic Skills by Developmental Studies*. *New Directions for Higher Education* 20. San Francisco: Jossey-Bass, 1977.

State Council of Higher Education for Virginia. *Developmental Education in Virginia*. Richmond: The Council, February 3, 1981.

State Department of Education. "California High School Curriculum Study." In press.

*State of California. "High Technology and High School: Preparing Students for California's Changing Economy." Sacramento: Office of the Governor, April 1982.

State of New Jersey Board of Higher Education. *The Statewide Plan for Higher Education*. Trenton: The Board, 1981.

Tremblay, Larry J. "Issues for the '80s . . . Developmental Education." *The Regents Report* (The Louisiana Board of Regents) 7:4 (1981) 1-8.

*Trillin, Alice Stewart, and Associates. *Teaching Basic Skills in College*. San Francisco: Jossey-Bass, 1980.

Trow, Martin. "Confronting the Challenge of Underprepared Students." Paper presented at the meeting of the American Association of Higher Education, Washington, D.C. March 1982.

*University of California. *Report to the Policy Committee on the University of California's Activities to Assist Underprepared Students*. Parts I and II. Berkeley: The University, March 1981.

University of Wisconsin System Basic Skills Task Force. *Final Report*. Madison: The University, May 1979.

Walvekar, Carol C., ed. *Assessment of Learning Assistance Services*. *New Directions for College Learning Assistance* 5. San Francisco: Jossey-Bass, 1981.

Watkins, Beverly T. "At Some Community Colleges, the 'Open Door' Begins to Close." *The Chronicle of Higher Education*, 25:5 (September 29, 1982) 1,8.

Weaver, W. Timothy. "In Search of Quality: The Need for Talent in Teaching." *Phi Delta Kappan*, September 1979, pp. 29-32, 46.

Wilson, Lester, ed. *Helping Special Student Groups*. *New Directions for College Learning Assistance* 7. San Francisco: Jossey-Bass, 1982.

Wirszup, Izaak. Report to the National Science Foundation reported in *ACSD Update* (Association for Supervision and Curriculum Development) 22:4 (September 1980) 1, 6.

Wirtz, Willard. "What Shall We Do About Declining Test Scores?" *Current Issues in Higher Education*. Washington, D.C.: American Association for Higher Education, 1978.

*Wirtz, Willard, and others. "On Further Examination: Report of the Advisory Panel on the Scholastic Aptitude Test Score Decline." New York: College Entrance Examination Board, 1977.

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